
NORTH AYRSHIRE COUNCIL

23 August 2022

Cabinet

Title: Digital Processing Manufacturing Centre, i3 Irvine: Phase 1, Full Business Case

Purpose: To seek endorsement of the Full Business Case (FBC) for Phase 1 of the Digital Processing Manufacturing Centre (DPMC) project at i3, Irvine.

Recommendation: That Cabinet agrees to:

- (a) endorse the Full Business Case (FBC) for Phase 1 of the Digital Processing Manufacturing Centre (DPMC) project at i3, subject to receiving endorsement from UK Government; and
- (b) approve the submission of the FBC to the Ayrshire Joint Committee.

1. Executive Summary

- 1.1 The Digital Processing Manufacturing Centre (DPMC) project is one of two Ayrshire Growth Deal (AGD) projects located at i3, Irvine Enterprise Area and is identified in the AGD Heads of Terms signed off in March 2019 and the Full Deal signed off in November 2020.
- 1.2 DPMC will be a nationally significant innovation centre to support and develop digital solutions with businesses in process manufacturing sectors across the UK. DPMC Phase 1 will establish a physical presence at i3 within an existing building. This will create a centre that will demonstrate modern digital processes, supported by academic and industry expertise, to train and develop businesses in the process manufacturing sectors (locally, regionally and nationally). It will help businesses to access new digital technology, products and innovation, improve energy efficiency / productivity / waste reduction, and increase company investment in research. £1M of the £6M Ayrshire Growth Deal allocated funds will be invested in Phase 1 as a pilot to test the concept and operating model, with the remaining allocation of £5M targetted at a permanent Phase 2 at i3. The centre will operate as part of the NMIS (National Manufacturing Institute Scotland) network. Phase 0, an initial online phase, was launched in October 2021.
- 1.3 Cabinet of 29 June 2021 agreed to the launch of the initial online phase, approved the related Memorandum of Understanding, approved the allocation of £1M from the Ayrshire Growth Deal for Phase 1 and supported the Outline Business Case for

Phases 1 and 2. This was followed by agreement at Cabinet on 30 November 2021 to agree to proceed with the proposals for a Phase 1 pilot of the DPMC project, to sign a Collaboration Agreement for Phase 1 between North Ayrshire Council (NAC), University of Strathclyde (UoS) and the Centre for Process Innovation (CPI), to contribute £1M to Phase 1 of the project in the form of a grant to the University of Strathclyde, subject to appropriate conditions; and to note that the Council will receive a grant from Scottish Enterprise, that will in turn be passed on to the University of Strathclyde for the fit out of the Phase 1 premises.

- 1.4 Key changes since the last Cabinet report include the preparation and approval by UK Government of a programme business case for the project, the development of the full business case for Phase 1, the agreement that the Council will lead on the refurbishment works and the allocation of additional funding from partners and Scottish Enterprise to support the refurbishment works.
- 1.5 The full business case (see Appendix 1) is ready for approval, following the completion of key aspects of the project set out in the paper. Under the agreed governance covering the AGD, the approval of the FBC has been delegated to the Ayrshire Joint Economic Committee (AJEC) following endorsement by UK Government, which is pending and Cabinet. It is anticipated that the FBC will be presented to the AJEC in September.

2. Background

- 2.1 DPMC will be a nationally significant innovation centre, focused on supporting and assisting process manufacturing sectors in the UK. Industries engaging with the DPMC will have the opportunity to hugely improve their efficiency, productivity, and to receive help with compliance performance and reducing their carbon footprint. DPMC will facilitate this by demonstrating, developing, and delivering new digital technologies and digital solutions. It will aid businesses with strategy, planning, skills and technology selection and acquisition and implementation. Pace is required to fill the gap in the provision of digital support for businesses, as part of COVID recovery plans and to support government policies to improve manufacturing, through the use of digital technologies and solutions.
- 2.2 It is a ground-breaking project which will bring the University of Strathclyde and NMIS into North Ayrshire as key anchor institutions and in partnership with CPI who will provide industry expertise. It will give local businesses and education providers the opportunity to access and benefit from the facility being on their doorstep and potentially signpost them to the wider NMIS network. It will also provide a catalyst for collaboration between industry, academia and the public sector within the local area. The table below outlines the key features of the DPMC project.

Digital Processing Manufacturing Centre (DPMC), Phase 1 (Pilot): Key Features	
Partners	NAC, University of Strathclyde, Centre for Process Innovation (CPI)
Location	i3 Irvine Enterprise Area, hosted by existing Booth Welsh facility
Services	Training & demonstrations in digital technologies & digital solutions
Equipment	Information technology including servers and operating software. Operational technology including programmable logic controllers (PLC), supervisory control and data acquisition (SCADA) and business software e.g., SAP

	Technology demonstrators including artificial intelligence, robotics and commercial off-the-shelf hardware and software.
Sector focus	Pharmaceuticals, Oil & Gas, Chemicals & Chemical Products, Agrichemicals, Food & Drink, Fast Moving Commercial Goods and Water (collection, treatment, supply).
Staff	7 posts: 1 managing director, 1 technician & 5 engineers
Capital Cost	Fully funded by Ayrshire Growth Deal, partners & Scottish Enterprise
Income	Supported by University & CPI & funding from commercial activity
Benefits	Location at i3 - linked to national agenda & NMIS. Local training and skills opportunities for local businesses to access. Improved efficiency, productivity & reduction in carbon consumption.

- 2.3 The Full Business Case focusses on the capital funding related elements of Phase 1, including £1M of funding towards equipment and £0.66M towards the refurbishment works. Subsequent addendums to the current FBC will be submitted in due course for other more detailed elements of Phase 1. The FBC is ready for approval with a number of key legal and financial requirements now in place which are set out in 4.1 and 4.3. These include the signing of a Collaboration Agreement by the partners on 28 March 2022 which sets out roles and responsibilities for Phase 1, agreement to additional funds for the capital works, approval by UK Government of a Programme Business Case on 29 June 2022, the first public announcement of the project by the University, the selection through a competent tender process of a preferred tenderer within budget for the refurbishment works and agreement on a final draft lease between the University of Strathclyde and Booth Welsh.
- 2.4 Progress has also been made by University of Strathclyde on the recruitment of the Managing Director's post for the Centre. It is anticipated that the post will be in place for the completion of the works to create the Phase 1 Centre and its launch in the New Year. The University and CPI are also working to develop business engagement on the project with support from the Ayrshire Regional Business Support Group, NMIS SME Business Team, Scottish Enterprise and from SMAS (Scottish Manufacturing Advisory Service) at the regional level. A Forum is being launched by DPMC based on a successful model developed by fellow NMIS specialist centre, Advanced Forming Research Centre (AFRC). Initial discussions have already begun with technology providers whose hardware and software underpin a large percentage of manufacturing activities and with 7 pharma companies across Scotland in relation to potential membership of DPMC. In addition, discussions are currently underway with partners regarding the potential for Booth Welsh to be an operational partner to the project.
- 2.5 There are key risks related to the project and detailed within the FBC. Phase 1 will require to generate income and business interest to sustain its planned operation over 5 years and to support the business case for Phase 2 as a permanent facility at i3. A key risk mitigation is this the development of this pilot, following the approval of its FBC.
- 2.6 The Phase 1 pilot project has now reached a critical stage as the approval of the FBC is required to ensure that the refurbishment tender is awarded before the 120-day tender period expires on September 29th 2022 and to enable completion of the works by December 2022, with an anticipated opening of the Centre in early 2023.

- 2.7 The full business case provides a strong and competent case for approval, following the completion of key aspects of the project as set out in the paper. Subject to receiving endorsement from the UK Government which is pending and Cabinet endorsement, the next step is to seek final approval of the business case from the Ayrshire Economic Joint Committee so that the tender for the refurbishment can be awarded and works commence.

3. Proposals

- 3.1 It is proposed that Cabinet agrees to:

- a) endorse the Full Business Case (FBC) for Phase 1 of the Digital Processing Manufacturing Centre (DPMC) project at i3, subject to receiving endorsement from UK Government; and
- b) approve the submission of the FBC to the Ayrshire Joint Committee.

4. Implications/Socio-economic Duty

Financial

- 4.1 The main financial implications of the project for the Council relate to the investment of £1.66M of funding which is now secured to enable the project to progress:
- i) The Council has committed to contribute £1M from its approved budget for the DPMC project as its allocation towards Phase 1. The Council will grant £1M to the University of Strathclyde for the sourcing, purchase, and installation of equipment for which it will be responsible. This arrangement will be subject to the Council complying with appropriate regulations relating to grant funding and to the University accepting any conditions relating to the grant. The Council will control the allocation of the grant through agreement on areas and amounts of spend as required. It is anticipated that there will be an initial grant fund of £590,000 and the balance of £410,000 will be subject to further agreement(s) during the Phase 1 project term.
 - ii) The overall budget for refurbishment is £660,000 supported by a grant of £515,100 from Scottish Enterprise and equal contributions of £48,300 from all partners. The Council has accepted the grant offer from Scottish Enterprise which is conditional on a number of factors and outcomes, including the Council's investment of £1M into Phase 1 and timelines for the Council claiming the funding;
 - iii) A preferred contractor has been selected for the refurbishment work following a competent tender process and the tender is within the available budget of £660,000; and
 - iv) University of Strathclyde will be responsible for sourcing revenue funding to support the ongoing operation of the facility. The project's financial appraisal forecasts income from membership and collaborative research and development, which will increase gradually over the five years.

Human Resources

- 4.2 University of Strathclyde has a DPMC Project Manager in post to lead on the development and co-ordination of the project. At the commencement of the project, the centre will have the posts outlined in the table above. The University has also recently advertised for a Managing Director for the centre to ensure DPMC has the operational controls, administrative and reporting procedures, people, and systems in place to effectively grow the organisation and ensure financial strength and operational efficiency.

Legal

- 4.3 A Collaboration Agreement which covers the operational and financial responsibilities of each of the parties for Phase 1, was signed in March 2022, between the Council, the University of Strathclyde and Centre for Process Innovation. In addition, progress has been made with completing a number of related agreements to cover specific aspects of the project. The main legal implications for Phase 1 of the project are:
- i) the management of grants. NAC will require to ensure that the conditions of grant set out by SE are complied with. As a condition of grant, SE require that NAC contribute a total of £1M to Phase 1 over the course of 5 years;
 - ii) the purchase and supply of equipment for the project by way of a grant from NAC to University of Strathclyde. Arrangements regarding the appropriate procurement, care, ownership, re-purposing and disposal, require to be set out and agreed between University of Strathclyde and NAC. Related conditions of grant will ensure that, if the project fails, the equipment will be sold by the University at fair market value and any proceeds will be returned to the Council.
 - iii) consideration of UK Government policy on Subsidy Control. NAC will require, as a condition of grant, that the University of Strathclyde ensures that the grant funds are utilised in accordance with subsidy control legislation.
 - iv) agreement on a lease for the building between Booth Welsh and the University of Strathclyde. The University will lease the space for a period of 5 years and will be responsible for its management and operation. A final draft lease agreement has been prepared and will be signed prior to the Council awarding the refurbishment tender.
 - v) Agreement for NAC to undertake the refurbishment works on behalf of the University of Strathclyde. This will be addressed in the lease document;
 - vi) Transfer of the project consultants' team from University of Strathclyde to the Council for the construction stage which has been agreed with the Council's Procurement team; and
 - vii) Award of the refurbishment tender is required within the 120-day period.

Equality/Socio-economic

- 4.4 The project will provide much needed services for process industries to help them grow and to attract inward investment to an area of above average unemployment and low business investment. It will provide an important training and development service for businesses in North Ayrshire and beyond, looking to benefit from emerging technologies. The centre will seek to make processing industry sectors more attractive and accessible to young people and women – groups that are currently identified as being excluded from economic growth opportunities. It will introduce a major academic anchor institution to the local area, offering the opportunity of collaborations with local companies, schools and colleges and creating wealth in the local economy, through job opportunities and supply chains. It will considerably increase the profile of the i3 Enterprise Area as a flagship project, and help to attract further investment and jobs.

Climate Change and Carbon

- 4.5 The DPMC project will enable businesses to improve the efficiency of their productivity and adapt their processes to modern technologies, supporting the Council's low carbon and digital ambitions.

Key Priorities

- 4.6 The DPMC project will strongly support the priority outcome contained in the Council Plan 2019-2024, for North Ayrshire to have an inclusive, growing, and enterprising economy and the aims of the Community Wealth Building Strategy and Recovery and Renewal Plan.

Community Wealth Building

- 4.7 The wider Ayrshire Growth Deal programme of skills and inclusive growth, supports projects at i3. The DPMC proposal will provide an important service for local businesses encouraging innovation, increasing productivity and promoting low carbon processes. It will specifically look to train our youth and existing workers on digital technologies to take advantage of emerging opportunities.
- 4.8 The DPMC's vision aligns with North Ayrshire Council's key strategies regarding Recovery and Renewal and Community Wealth Building. In particular, the project will help achieve one of the Council's Community Wealth Building objectives; to encourage regional and national institutes to invest in our communities and the local economy. The project will also make a strong contribution to the Manufacturing Recovery Plan for Scotland, through collaboration, business transformation and skills development.

5. Consultation

- 5.1 The University of Strathclyde, Centre for Process Innovation, National Manufacturing Institute Scotland, Ayrshire College, Scottish Enterprise, Skills Development Scotland, and industry are part of a Steering Group that have informed and guided the development of the DPMC project. Businesses have also been surveyed directly on whether they would use the facility - with a positive response and NMIS and CPI are engaging with businesses in advance of the centre opening. Legal, procurement, finance and business teams have been involved in the development of the project.

Karen Yeomans
Director, Growth & Investment

For further information please contact **Marnie Ritchie, Regeneration Manager**, on **07342 713 349**.

Background Papers

0

DIGITAL PROCESS MANUFACTURING CENTRE (DPMC) I3, IRVINE FULL BUSINESS CASE, PHASE 1 V.03

3 August 2022



Authors: Christine Dent (NMIS), David Hernandez (NMIS)
Additions for PMO / Government Discussions: Marnie Ritchie, North Ayrshire Council
Owner: Keith Ridgeway (NMIS)

Digital Process Manufacturing Centre, Full Business Case, Phase 1 – V0.3

Revision history

Issue	Date	Detail of Changes
DRAFT V0.1	10/12/2020	Outline Business Case draft shared with DPMC Steering Group.
V0.2	17/05/2021	Inclusion of Phase 0 and revised costs
V0.3	28/05/2021	Updated Economic Case
V0.4	15/07/2021	Appendices added by North Ayrshire Council. Submitted to PMO and forwarded to Government as first draft
V0.5	01/04/2022	OBC amended to create Programme Business Case
V0.6	07/04/2022	PBC Submission to AGD PMO
V0.7	16/05/2022	PBC e-submitted to PMO following updated advice and PMO comments. PBC Approved 29 June 2022.
V0.8 / V.0.3	03/08/2022	FBC Phase 1

Contents

PART A: Project Description

PART B: The Five Cases

1. Executive summary	11
1.1 Introduction	11
1.1.1 Project Aims & Objectives.....	12
1.1.2 Project Scope	13
1.1.3 Project Phases.....	13
1.1.4 Structure and content.....	14
1.2 Strategic Case	15
1.2.1 Why change is needed	15
1.2.2 Driving policy and economic regeneration.....	16
1.2.3 Site and timing opportunity.....	17
1.2.4 Impact of not changing and need for government intervention	17
1.2.5 Benefits.....	17
1.2.6 Risks, constraints and dependencies.....	18
1.3 Economic Case.....	19
1.3.1 OBC long list and short list.....	19
1.3.2 The procurement	22
1.3.3 Key findings and the preferred option	23
1.4 Commercial Case	23
1.4.1 Agreed products and services.....	23
1.4.2 Agreed risk allocation and charging mechanism	23
1.4.3 Key contractual arrangements	24
1.4.4 Agreed implementation timescales	24
1.4.5 Accountancy treatment	25
1.5 Financial Case	25
1.5.1 Financial expenditure.....	26
1.5.2 Overall affordability and balance sheet treatment	26
1.6 Management Case.....	26
1.6.1 Project management arrangements	26
1.6.2 Benefits realisation and risk management.....	26
1.6.3 Post project evaluation arrangements.....	26
1.7 Recommendation.....	26
2. Strategic Case.....	28
2.0 Introduction	28

2.1	Organisational overview.....	29
2.2	Business Strategies	30
2.2.1	Strategic Policy Context.....	30
2.2.2	UK and National Policy Alignment.....	31
2.3	Other organisational strategies	36
2.3.1	AGD Programme	36
2.3.2	Regional Policy Context.....	36
2.4	Investment objectives	39
2.5	Existing arrangements	40
2.5.1	Established services	41
2.5.2	Gap Analysis.....	43
2.6	Business needs	44
2.7	Potential Business Scope and Key Service Requirements.....	46
2.7.1	Business scope.....	46
2.7.2	Components of the DPMC	47
2.7.3	NMIS DPMC Services.....	48
2.7.4	Core coverage and services	48
2.8	Main Benefits Criteria.....	49
2.9	Main risks	50
2.10	Constraints	54
2.11	Dependencies	54
3.	Economic Case	55
3.1	Introduction.....	55
3.2	Critical success factors	55
3.3	Long-list options.....	58
3.3.1	Preferred way forward.....	61
3.4	Short-listed options	61
3.5	The procurement process	62
3.5.1	Long list criteria.....	62
3.6	Economic appraisal.....	63
3.6.1	Introduction	63
3.6.2	Estimating benefits	63
3.6.3	Estimating costs.....	66
3.6.4	Cost appraisal conclusions	66
3.7	Qualitative benefits appraisal	66
3.7.1	Methodology	66
3.7.2	Qualitative Benefits Criteria.....	66
3.7.3	Qualitative Benefits Scoring.....	67

3.7.4	Analysis of Key Results	67
3.8	Risk Appraisal – Unquantifiables.....	67
3.9	The preferred option – selected supplier	68
3.10	Sensitivity Analysis.....	68
3.11	Preferred option.....	68
4.	Commercial Case.....	69
4.1	Introduction.....	69
4.2	Required services	69
4.3	Agreed risk transfer.....	69
4.4	Agreed charging mechanisms.....	69
4.5	Agreed contract length.....	69
4.6	Key contract clauses.....	70
4.7	Personnel Implications (including TUPE)	70
4.8	Procurement route and implementation timescales.....	70
4.9	FRS Accountancy Treatment	71
5.	Financial Case	72
5.1	Introduction.....	72
5.2	Impact on the organisation’s income and expenditure account	72
5.3	Impact on the Balance Sheet	72
5.4	Overall Affordability.....	72
6.	Management Case	74
6.1	Introduction.....	74
6.2	Programme management arrangements.....	74
6.3	Project management arrangements	74
6.3.1	Project reporting structure.....	76
6.3.2	Project roles and responsibilities.....	78
6.3.3	Project Plan	78
6.4	Use of special advisers	79
6.5	Arrangements for change management	79
6.6	Arrangements for benefits realisation.....	80
6.7	Arrangements for risk management	81
6.8	Arrangements for contract management	81
6.9	Arrangements for post project evaluation.....	82
6.10	OGC Gateway Review Arrangements	82
6.11	Contingency Plans	83
	Appendices	85
	APPENDIX A: INCLUSIVE GROWTH & COMMUNITY WEALTH BUILDING	87
	APPENDIX E: DPMC RISK REGISTER.....	88

APPENDIX F:	INCLUSIVE GROWTH HEAT MAP	93
APPENDIX G:	AGD PROJECT LINKS	94
APPENDIX H:	LONG LIST OPTIONS APPRAISAL	98
APPENDIX J:	COMMUNITY BENEFITS STATEMENT	100
APPENDIX L:	BENEFITS REALISATION LOGIC CHAIN.....	102
APPENDIX M:	EQUALITY IMPACT ASSESSMENT	103
APPENDIX N:	CARBON ANALYSIS	115
APPENDIX O:	PMO MODELLING	116
APPENDIX P:	AYRSHIRE GROWTH DEAL	122
	CHANGE MANAGEMENT PROCESS	122

PART A: Project Description

What is the project about?

This project proposes a Digital Processing Manufacturing Centre (DPMC) at i3 Irvine Enterprise Area, which is a strategic site for North Ayrshire Council and is recognised as a Life Science Enterprise Area. The project is being supported by the Ayrshire Growth Deal and is being delivered in partnership with NMIS (National Manufacturing Institute Scotland), University of Strathclyde, CPI (Centre for Process Innovation) and with support from Ayrshire College. The project is being delivered in three phases. Phase 0 was launched in October 2021 to establish an online presence and offer introductory courses to businesses. Phase 1 will establish a pilot facility to test the sustainability of the project as a risk mitigation, prior to the delivery of Phase 2, which would see the establishment of a permanent facility. The DPMC will contribute to Scotland's Manufacturing Recovery Plan, helping businesses adapt to digital, lowering their carbon footprint and increasing their productivity. The DPMC project is complemented by the proposal to build new flexible advanced manufacturing space at i3, also supported by the Ayrshire Growth Deal. **This Full Business Case for Phase 1 follows on from a recently approved Programme Business Case for Phases 1 and 2 in June 2022. NAC and its partners are seeking the timely endorsement of the FBC by UK Government and its subsequent approval by the Ayrshire Joint Committee, to enable refurbishment and fit out works to commence at the Phase 1 project location in September 2022. Timelines are critical to ensure that the tender award takes place before mid September 2022, shortly after which the 120 day period will expire for tenderers holding their costs and to ensure funding can be claimed from Scottish Enterprise. An FBC for Phase 2 will then be submitted following the more detailed development and sourcing of funding for this phase.**

Tenders have been received for the refurbishment works and the details are contained within the Commercial Case. It should be noted that these details are limited following advice from the Council's Corporate Procurement Unit that commercial information should be limited prior to the award of the tender. Details relating to the current status of the procurement of the equipment and staff, and the lease for the project location are set out within the Management Case

Full Business Case approval for Phase 1 by late August 2022 / early September 2022 will enable Phase 1 to be delivered by December 2022 and to remove any risk from Growth Deal investment in its delivery, ahead of Phase 2.

Why is it being undertaken?

The Digital Processing Manufacturing Centre (DPMC) will address a number of specific issues to encourage industries to adopt digital processes through:

- Supporting the UK's process manufacturing sector and encouraging the establishment of further process manufacturing industry in the UK;
- Supporting the development of digital technologies and solutions in the process manufacturing sectors by providing high quality and safe testing facilities for digital sensing and monitoring, process control and asset management technologies;
- Delivering a flexible and adaptable manufacturing environment that can be used to prototype and test new process plants and technologies, and potentially attracting customers from around the World.
- Removing risk from the introduction of digital technologies to process manufacturing industries.

The project will help grow local businesses within the Ayrshire area and attract inward investment to an area of above average unemployment and low business investment. There will be opportunities for businesses linked to the DPMC project to take up space within the new flexible space units, helping create a cluster of industry and innovation at i3.

How does it fit within the wider Ayrshire Growth Deal?

This project contributes to the wider Ayrshire Growth Deal, addressing economic underperformance by helping position Ayrshire as the go-to region for smart manufacturing and digital skills and by improving access to employment opportunities.

What is being proposed?

The proposal involves the phased delivery of a centre – Phase 1 within an existing building as a pilot, occupying approximately 645m² of refurbished space with demonstration area and a purpose-built centre – Phase 2, of approximately 1,100m² comprised of a demonstration laboratory, business incubation suites, open plan office area, AR/VR suites, events space and service hub. Both facilities will be located at i3 in Irvine.

How will it be delivered?

The project will be delivered in phases with an initial online phase (Phase 0), then a pilot phase (Phase 1) offering the opportunity for businesses to experience demonstrations of digital technologies and identify digital solutions. This will be followed by a more significant and expanded purpose-built facility as Phase 2.

What outcomes will it deliver and by when?

The outcomes anticipated over the next 5 years relate to the transformation of the business base in Ayrshire through the services offered by DPMC, the creation of supply chains and R&D opportunities, the delivery of a successful training and skills programme and the creation of a specialist hub at i3, which will attract further investment to the area and anchor NMIS in Ayrshire. The project will look to develop employability and skills programmes for local people, including those from disadvantaged or protected characteristic groups.

Who will use it and why?

The project is targeting companies within the process manufacturing sectors, local companies, including SME's looking to grow and expand and inward investment companies from Ayrshire, Scotland, the UK and beyond. The facilities will support businesses to improve their productivity and innovation. through digital technology and the Centre will offer a space for industry networking and collaboration opportunities.

What are the headline figures around what is being proposed - headline financials

An allocation of £6M from the Ayrshire Growth Deal has been agreed for the DPMC project, comprised of £5M from UK Government and £1M from North Ayrshire Council. Overall £21M is being invested at i3 by the Ayrshire Growth Deal, with a further allocation of £15M contributing to the Flexible Advanced Manufacturing Space project (£4M from North Ayrshire Council and £11M from Scottish Government).

Phase 1 will invest up to £1.66M of committed capital funding towards a pilot project which is relatively low risk in terms of its smallness in scale and level of investment. This includes:

Digital Process Manufacturing Centre, Full Business Case, Phase 1 – V0.3

- £1M of North Ayrshire Council's contribution to the AGD towards equipment; and
- £0.515m of capital grant by Scottish Enterprise and £48,300 from each of the project partners towards refurbishment works.

In terms of revenue support, so far £2m has been committed from University of Strathclyde and £1m from CPI. The table below, sets out the current status of funding for Phases 1 and 2 with Phase 1 highlighted. For Phase 1, income revenue targets from membership and collaborative research and development have been assumed which brings Phase 1 to above the £9.788M overall cost which is set out in paragraph 1.1, "Funding Required".

Table 1: DPMC Phase 1 & 2, Funding Sources

DPMC FUNDING SOURCES						
Source	Status	Phase 1		Phase 2		Total
		Capital	Revenue	Capital	Revenue	
NMIS & HVMC	committed	48,300	2,000,000	tbc	tbc	2,048,300
CPI & HVMC	committed	48,300	1,000,000	tbc	tbc	1,048,300
NAC (inc AGD)	committed	1,048,300	-	-	-	1,048,300
UK Govt (AGD)	committed	-	-	5,000,000	-	5,000,000
Scottish Enterprise	committed	515,100	-	-	-	515,100
NMIS (HVMC)	in discussion	-	-	1,000,000	800,000	1,800,000
CPI (HVMC)	in discussion	-	-	1,000,000	400,000	1,400,000
Additional capital funding required	in discussion	-	-	5,000,000	-	5,000,000
Strathclyde University	in discussion	-	tbc	-	-	tbc
Ayrshire College	in discussion	-	tbc	-	-	tbc
Scot Govt Grant	in discussion	-	1,000,000	-	-	1,000,000
Directly funded projects	assumed		1,800,000		720,000	2,520,000
DPMC Membership	assumed		2,430,000		1,125,000	3,555,000
Membership in kind	assumed			1,500,000		1,500,000
Collaborative R&D	assumed		1,215,000		405,000	1,620,000
Total		1,660,000	9,445,000	13,500,000	3,450,000	28,055,000
		11,105,000		16,950,000		
Total				28,055,000		
Funding balance surplus				2,167,944		
Minimum funding required				25,887,056		
Summary of Minimum Funding Required:						
Phase 1 Capital				£1,660,000		
Phase 1 Revenue				£8,128,580		
Phase 1 Total				£9,788,580		
Phase 2 Capital				£13,499,602		
Phase 2 Revenue				£2,598,874		
Phase 2 Total				£16,098,476		
Total Capital				£15,159,602		
Total Revenue				£10,727,454		
Total DPMC				£25,887,056		

Initial Feedback

Phase 0 was launched in autumn 2021, as an initial online phase. DPMC worked closely with fellow NMIS specialist centre, the Manufacturing Skills Academy (MSA), to deliver two fully subscribed courses. These attracted a varied audience, ranging from CEOs, consultants, engineering graduates, and apprentices, from SMEs to multi-nationals. This diversity at the onset of DPMC demonstrates the need for a centre which focuses on educating and early-stage adoption at all organisational levels. This is critical to develop a culture of promotion and adoption of digital technology to fully exploit the efficiency gains of Industry 4.0. Since running the courses, DPMC has been actively seeking funding for the development of additional courses. Feedback surveys from MSA have been very positive with a clear appetite for further courses which focus on in-depth case studies and applicability.

In May 2022, DPMC and MSA began planning an additional digital technology course to support awareness of industry 4.0 and the scheduled opening of DPMC. This course will build on the established demand of the previous courses and seek to expand the industrial engagement element of DPMC by providing relevant Industry 4.0 training and skills development. Course development is already underway and scheduled to be delivered in September 2022.

In addition to digital technology courses, DPMC will launch a forum network based on a successful model developed by fellow NMIS specialist centre, Advanced Forming Research Centre (AFRC). The AFRC has run three successful forums where industry of the midlands metal forming sector have come together to share challenges and voice areas of R&D interest. One of the most common areas seen as a challenge was training and upskilling. Although the solutions to metal forming will be unique to that sector, challenges such as training and upskilling will be experienced in many high value sectors. In Q3 2022, DPMC will take this model and tailor its methodology to the process sector.

NMIS has recently established a team dedicated to engaging with SMEs. DPMC is working closely with this team to develop understand and develop SME specific support as SMEs have traditionally struggled with skills shortage more so than large companies. Training and upskilling is also linked with job satisfaction, which can further support local recruitment and retention. Besides delivering value to stakeholders, the DPMC partners have been able to progress additional business development opportunities with attendees including discussions on DPMC membership and strengthening sector specific relationships within the food & drink sector.

1. Executive summary

1.1 Introduction

This Full Business Case (FBC) seeks approval for investment in Phase 1 of the DPMC pilot project. This includes investing up to a maximum of £660,000 of capital in a contract with a supplier, to undertake the refurbishment works to the Phase 1 DPMC project space. It also sets out within the Management Case, the process for the remainder of the capital investment for this Phase, which relates to the provision of appropriate equipment from £1M of AGD funds and arrangements for recruitment and a lease for the space.

The Digital Process Manufacturing Centre (DPMC) will be a nationally significant innovation centre created at i3 in North Ayrshire, Scotland using the Ayrshire Growth Deal funding as a catalyst for its creation. The focus of the DPMC will be to demonstrate, develop and deliver digital technology to support the UK's process manufacturing sectors' digital challenges. Industry engaging with the DPMC will have the opportunity to improve their productivity gains by up to 30%¹, to improve their compliance, performance and reduce their carbon footprint.

The DPMC will be developed in three phases:

- Phase 0: Delivering modules of training and demonstrations of digital technology & solutions, from the National Manufacturing Institute Scotland (NMIS) Manufacturing Skills Academy.
- Phase 1: Open pilot facility in Irvine in Ayrshire, delivering projects with industry.
- Phase 2: Launch dedicated DPMC facility with expanded capability and services for industry.

Phase 0 was launched in October 2021 under NMIS Manufacturing Skills Academy, delivering packages of key training services and demonstrations of digital technology delivered in response to the Covid-19 impact on UK's manufacturing industry. Phase 0 is partly funded from NMIS's National Transition Training Fund (NTTF).

Phase 1 is the subject of this Full Business Case (FBC) and will be launched in late 2022 as the DPMC pilot, following the approval of the FBC. The pilot will make use of existing infrastructure in North Ayrshire and offer services to industry. Phase 1 will run over a 5 year period, to establish the pilot facility, and build on the industry engagement generated from Phase 0, to establish a community of process manufacturing industries.

Phase 2 will be a dedicated building and complement the services provided within Phase 1. Phase 2 will be opened in mid 2025. A Full Business Case will be submitted in late 2023 to provide further detail on Phase 2.

Funding required

The key funding being sought for this project is for DPMC Phases 1 and 2 with a total of £25.877M combined capital and revenue funding required. Phase 1 will run over a 5 year period from late 2022. The total cost of Phase 1 is **£9.788M**, this will enable the pilot facility to be established, and R&D projects to be initiated from Phase 0 engagements, to create a community of process manufacturing industries. All capital funding for Phase 1 is committed (£1.66M) and £3M of initial revenue funding is committed which leaves an estimated balance of at least £5.13M to be sourced from income.

¹ <https://www.gov.uk/government/publications/made-smarter-review>

Sector focus

The DPMC will transform the industrial landscape of the Ayrshire region through a blended approach of upgrading existing infrastructure and development of a new state of the art digital innovation space to create a critical mass of activity, becoming a national centre of excellence in process manufacturing technology for key process sub-sectors including:

- Pharmaceuticals
- Oil & Gas
- Chemicals and Chemical Products
- Agrichemicals
- Food & Drink
- Fast Moving Commercial Goods
- Water (collection, treatment, supply)

DPMC Partners

The DPMC project is led by the National Manufacturing Institute Scotland (NMIS) and supported by the High Value Manufacturing Catapult (HVMC) and University of Strathclyde (UoS), ensuring world leading research expertise.

The DPMC's other lead partners include North Ayrshire Council (NAC), positioned to attract further investment in Scotland by combining the ambitious economic growth incentives of the Ayrshire Growth Deal (AGD), and HVMC's Centre for Process Innovation (CPI) and the Medicines Manufacturing Innovation Centre (MMIC) combined to bring specific technical and commercial expertise in process and pharmaceutical manufacturing, and strengthen industrial ties and research expertise. Ayrshire College is also a potential partner which will ensure close connections with Further Education, building on existing educational links and supporting SME growth. In addition the area has the strong regional industrial presence of global companies including GSK and Booth Welsh.

A Steering Group was established by the partners in 2020 to guide the project and includes representation from the partner organisations, Scottish Enterprise, Skills Development Scotland and industry.

The project will complement North Ayrshire Council's advanced manufacturing flexible space project at i3 which is also being funded by the Ayrshire Growth Deal. This will provide approximately 97,000 sq feet of industrial and office space over three phases.

1.1.1 Project Aims & Objectives

The DPMC's overall aim is aligned with NMIS's vision to be an industry-led international centre of manufacturing expertise where research, industry and the public sector work together to transform skills, productivity and innovation to attract investment. The development of a Phase 1 pilot will test the project's sustainability using NAC's AGD £1M contribution which will in-turn help reduce the risks for the further and more significant UK Govt investment of £5M in Phase 2 of the project.

DPMC's focus for delivering NMIS's vision will be to transform the UK's process manufacturing sector, to increase productivity and innovation to attract investment and to position the UK as a global leader in advanced process manufacturing.

DPMC's objectives for the process manufacturing sector are reflected in NMIS's five core objectives:

1. Increase the productivity and innovation performance of process manufacturing businesses and reduce the perceived individual company risk associated with innovation.
2. Stimulate manufacturing investment, both inward and from businesses already located in the UK, to increase the competitiveness of the UK's process manufacturing base over the medium to longer term in a highly advanced process manufacturing environment.
3. Catalyse job creation and strengthen supply chain linkages, increasing the relative process manufacturing contribution to UK's overall economy.
4. Inspire and attract a diverse talent pool to work in process manufacturing, equipping existing and future employees with the digital technology skills, both technical and practical, to prosper in an increasingly digital and automated manufacturing environment.
5. Minimise displacement of companies and jobs.

Additional objectives included:

6. Supporting the Scottish Government's Making Scotland's Future - recovery plan for manufacturing², in relation to the impact of Covid-19 on the UK.
7. The project also aligns with the objectives and priorities of North Ayrshire Council in relation to the Ayrshire Growth Deal, Recovery and Renewal, Community Wealth Building and Inclusive Growth (see Appendix A).

1.1.2 Project Scope

The scope of DPMC will be focused on supporting and assisting the UK's process manufacturing sector. The DPMC will be an extension of NMIS's Digital Factory 2050, through strategic partnership with CPI and MMIC, recognising the unique challenges facing the UK's process manufacturing industry. The DPMC will build and utilise NMIS's established approaches in assisting Scottish, UK based and international process manufacturing industries. Strategic partnership with CPI and MMIC will provide support to the project, benefiting from their experience working with the processing sectors.

1.1.3 Project Phases

The DPMC project will be delivered in three phases.

Phase 0: NMIS Training and Demonstration

In response to Covid-19, and in agreement with partners, NMIS has included Phase 0 for the DPMC project, to address the immediate needs of industry in adopting and understanding digital technologies. This phase is aligned with Scottish Government's Making Scotland's Future - recovery plan for manufacturing, with a key focus being to support the manufacturing sector to become more flexible, responsive and able to embrace digital solutions.

Training topic areas include:

- Demystifying Digital
- Industrial Cyber Security

² <https://www.gov.scot/publications/making-scotlands-future-recovery-plan-manufacturing-draft-consultation/>

- Digital data analytics
- Digital leadership

Phase 0 is led by NMIS and partly funded through NMIS's National Transition Training Fund (NTTF). Phase 0 launched in October 2021 and enables the process manufacturing industry to access digital technology focused training materials and time with digital technology experts, supported through in-kind contributions and funding. The training and demonstration services will support companies and individuals to ensure the process manufacturing industry, and its employment pool are moving forward with digital adoption and with support to recover from the impact of Covid-19. All Phase 0 training and demonstrations have been delivered digitally to industry, making use of current NMIS infrastructure to support this.

Phase 1: DPMC Pilot

Phase 1 will be an initial pilot for the DPMC, to be hosted within an established building (Booth Welsh) located in i3 Enterprise Area, Irvine in North Ayrshire. NMIS, is commissioning a refit of an established building, making the site operationally ready for the needs of DPMC Phase 1 and will agree arrangements for and funding of the Phase 1 lease costs for a minimum of a 5 year period. An early-stage concept design of DPMC Phase 1 is shown in figure 1.

Phase 1 will be used to further establish process manufacturing industry R&D interaction with the DPMC and enable initial projects to be delivered by a small team of staff employed by UoS and located within the DPMC. Phase 1 will be used to develop and strengthen DPMC's reputation and relationship with the process manufacturing sector.



Figure 1: Image of potential building refit for phase 1

Phase 2: DPMC main facility

During phase 2, DPMC will expand to a permanent facility within a bespoke building at i3, operated by NMIS and on land that will be in NAC ownership. Partners are currently discussing the most appropriate partner to lead on the construction and ownership of the Phase 2 facility

The DPMC dedicated area for the main facility will have a footprint of approximately 1100m². It will have reconfigurable, flexible space to maximise the potential of the assets used to support the processing sector by demonstrating, developing and delivering digital technology.

1.1.4 Structure and content

This Full Business Case (FBC) sets out details related to Phase 1 of the DPMC project. The format used is the Five Case Model and follows the AGD Project Management Office (PMO)

template. A second FBC will then be submitted Q2 2023 to seek approval for Phase 2 of the project.

1.2 Strategic Case

1.2.1 Why change is needed

The Digital Processing Manufacturing Centre (DPMC) will address a number of specific issues:

- Supporting the UK's process manufacturing sector and encouraging the establishment of further process manufacturing industry in the UK;
- Supporting the development of digital technologies and solutions in the process manufacturing sectors by providing high quality and safe testing facilities for digital sensing and monitoring, process control and asset management technologies;
- Delivering a flexible and adaptable manufacturing environment that can be used to prototype and test new process plants and technologies, and potentially attracting customers from around the World.
- Removing risk from the introduction of digital technologies to process manufacturing industries.
- Promoting the adoption of digital technologies to reduce the use of carbon in manufacturing processes.

With training services, process plant prototype, and testing in a single location, more robust systems integration testing can be conducted by;

- Closing the STEM skills gap and providing training on rapidly evolving I4.0 (Industry 4.0) technologies.
- Tackling ever-rising costs by allowing new digital and process technologies to be effectively tested and commissioned rather than committing them to operations before they are fully developed; and
- Generating high quality employment and economic opportunities for communities in North Ayrshire, and Ayrshire.

The application of digital solutions within manufacturing has been identified as a key enabler for growth in key Scottish sectors. However, a large number of companies are still unsure how to implement digital technologies and they require support. There is a particular need to support change in Ayrshire where the economy has struggled to adapt following de-industrialisation and where there is a higher percentage of jobs in manufacturing compared to Scotland generally. SCDI and the OECD have warned that automation could impact post-industrial regions disproportionately and that there is a need for preventative action in traditional sectors such as manufacturing and engineering, to counteract the potential impacts of automation and to ensure these sectors can adapt for Industry 4.0. The DPMC provides a strategic intervention to help address these issues and create higher value productivity.

North Ayrshire is poorly served in terms of access to academic institutions, research organisations and innovation centres. The project will enable local businesses to access new technology, products and innovation, help improve energy efficiency and reduce waste and increase company investment in research and development through engagement with the DPMC. The project will also assist with improving North Ayrshire's economic performance which is currently in the bottom quartile for most measures of economic performance compared to the rest of the Scottish and UK economies.

1.2.2 Driving policy and economic regeneration

The DPMC project has the potential to deliver against the policy objectives of key strategies set out at UK and Scottish levels and for the local Ayrshire region. In particular, the project aligns with the grand challenges of AI & Data and Clean Growth identified in the UK's Industrial Strategy. The DPMC will build on the recognised strengths and opportunities, primarily relating to supporting the growth and competitiveness of the process manufacturing sectors in the UK by creating the infrastructure to conduct digital technology research and development in this sector, to accelerate innovation adoption and attract inward investment.

UK and Scottish Policy Alignment

The DPMC project is also aligned with the UK Government's and Scottish Government's inclusive growth agendas, targeting regional imbalances in economic activity. The DPMC also supports, the following strategies:

- Innovate UK's Five-Point Plan for Economic Growth. The DPMC will assist to reposition the regional economy (in alignment with the national economy) to be more resilient and attractive for investment, improving workforce skills and employment opportunities. The DPMC will also position the UK as a global leader in advanced process manufacturing.
- A Manufacturing Future for Scotland. The DPMC as part of NMIS, will ensure linking up with other centres of excellence across the NMIS group and Catapult networks. Creating opportunities for collaborations between businesses, research technology organisations and academia. by providing a focal point and promoting an open innovation ethos.
- Making Scotland's Future: A Recovery Plan for Manufacturing. The DPMC will add to the existing network of support for manufacturing companies in Scotland and the UK, helping deliver the Scottish Government's Action Plan.
- Scotland's Future Skills Action Plan. The DPMC will strengthen Scotland's labour market by providing training and upskilling through NMIS's National Transition Training Fund (NTTF).

Ayrshire Growth Deal

The Ayrshire Growth Deal (AGD) programme links to Governments' objectives of increased growth and prosperity. Following the development of NAC's Strategic Outline Case, NAC has been working closely with the other Ayrshire Councils and has coordinated activity through the Ayrshire Growth Deal Leadership Group and Project Management Office (PMO). The project continues to focus on the high growth, high value process manufacturing sectors that can build on Ayrshire's general manufacturing strength. The partnership with University of Strathclyde and NMIS and CPI now offers the potential to build a national level facility in Ayrshire based on the NMIS 'hub and spoke' model.

As part of a wider programme of investment, North Ayrshire Council has secured funds for the project through the Ayrshire Growth Deal (AGD). AGD is a £251.5M infrastructure programme funding 19 projects to unlock an estimated £300M of private investment and deliver around 7,000 new jobs across a wide range of sectors. The DPMC project will leverage £6M of AGD funding as part of the project's capital costs, with the aim of attracting industrial commitment and technical expertise.

Regional Policy Context

The DPMC project has the potential to support two of North Ayrshire's economic development objectives; creating employment opportunities and positioning the area as a leading location for business within the Glasgow city region.

The four key local strategies are the Ayrshire Economic Strategy, North Ayrshire Council Plan, North Ayrshire Council's Community Wealth Building Strategy and the North Ayrshire Local Development Plan (LDP). These set out a long-term vision for growth and provide a policy framework for determining planning applications and policy context for Ayrshire Growth Deal projects.

The DPMC project has the potential to deliver against the policy objectives of key strategies set out at both the Scottish and regional levels. The proposition is also in line with the Scottish Government's inclusive growth agenda, targeting regional imbalances in economic activity.

1.2.3 Site and timing opportunity

Manufacturing is a key strength of the North Ayrshire economy, particularly around life sciences and engineering. However, the area has been identified as underperforming economically and has some serious challenges around depopulation, productivity, and economic growth rates and skills levels.

Market research conducted by North Ayrshire Council shows a lack of modern office, manufacturing and business space in North Ayrshire, and significant market failure, which prevents the private sector from addressing the lack of provision of space. In spite of manufacturing strengths in Ayrshire, there is a lack of allied academic footprint, which hinders attracting research and development activity to Ayrshire, and this translates to a lack of opportunities for supply chain and local business development opportunities.

North Ayrshire's i3 Campus is the biggest of the four Enterprise Areas (EA) in Scotland and meets the foundational success criteria by providing the largest fully serviced land and buildings site in Scotland (326 acres) currently hosting 39 companies in new and refurbished space. With over 2,000 staff based on the site, it is North Ayrshire's principal employment location.

1.2.4 Impact of not changing and need for government intervention

Without the planned investment in the DPMC project, the process manufacturing sector for Scotland and the UK would continue at a slow pace for adoption and integration of digital technologies. This slow pace would put the UK in a poor competitive position versus neighbouring and further afield countries, and more process manufacturing would be offshored outside of the UK, reducing processing sector exports and associated jobs and skills.

There is also a significant risk in not supporting the development of the DPMC, from a local perspective for the area of North Ayrshire. This area will continue to suffer and not regenerate without the presence of this innovation centre. In particular, there is a risk that manufacturing sectors will struggle to adapt to digital without the support of the DPMC project. This could have an inflated negative impact on the area, given North Ayrshire's above average number of manufacturing jobs. In this respect, acceleration of a Phase 1 pilot using some of the AGD investment, will enable services to be delivered earlier, establishing the centre at i3 a few years in advance of the purpose-built Phase 2 facility. This will also test the centre's operational sustainability in advance of the majority of AGD investment in Phase 2.

1.2.5 Benefits

National benefits

The UK does not possess anything approaching such a high-quality facility as planned at DPMC. Both public and private sector organisations frequently use test facilities in Europe,

supporting jobs and building competing expertise in other countries. As technology develops within DPMC, the supply chain required to ultimately exploit this technology will grow as opportunities for SMEs to design, install, service, and supply these innovations to the various processing industries will require a mix of national talent and inward investment. This aligns with the UK Industrial Strategy of making the UK attractive to start or grow a business. DPMC will also close the gap between the UK's most productive companies, industries, places and people, and the rest of the country, by providing a cross-sectoral focus for the process manufacturing sector. As a whole, i3 is estimated to create 176 net additional jobs in Scotland

Local benefits

Between 2006 and 2016 total GVA in North Ayrshire fell by 7%, in stark contrast to the 12% growth in GVA in Scotland and 13% growth in the UK over the same period. DPMC will combine the growth in varied processing sectors across Scotland such as food & drink and medicines manufacturing, with the existing and planned infrastructure of i3. This will allow DPMC to play a large part in i3 delivering an estimated cumulative gross GVA impact of £168m by 2029. -

The preferred option of a phased approach based at i3 will ensure DPMC delivers value for money, meets strategic goals, and minimises risk. As advancements in Industry 4.0 are continuously pushing the art of the possible, a phased approach will future-proof the workforce in Phase 0, and allow projects, innovation, revenue, and engagement to begin on completion of Phase 1, while providing critical time to develop regional support and strength which will ultimately dictate the capital-intensive technologies most relevant to be installed in the Phase 2 hub. Industry engagement from Phases 0-1 can then be leveraged using a funding model, such as NMIS's membership model, to reduce government grant requirements and attract further investment.

Ayrshire benefits

DPMC is estimated to create 139 net additional jobs for the Ayrshire economy, helping provide regional support for businesses and to complement the specialist activities of other AGD projects such as AMIC in East Ayrshire.

The cumulative effect of these benefits will lead to national impact which will see UK R&D in the processing industry compete at a global scale through the commitments of multinational companies working with world leading UK research institutes in a state-of-the-art facility.

1.2.6 Risks, constraints and dependencies

Risks

The nature and importance of DPMC will mean that the full risk management process cannot be fully addressed in this document. At this stage of the project there is a particular risk around timelines for the endorsement and approval of the FBC as this requires to happen prior to a deadline for the acceptance of a tender. Key socio-economic, business, political, financial, regulatory, environmental, and operational risks are provided in section 2.10, with a short overview below. The full process will be directly aligned to the risk process for NMIS with a direct escalation route to University executive risk management. The project risks will be managed in line with established best practice with the University of Strathclyde, and with support and advice from DPMC partners.

Key Risks and Mitigations:

1. Political - DPMC business case fails to progress: business case stages to be developed in accordance with UK Government Green Book guidance including full

review of risks, market, costs, and governance. This may include adjustments to scope specifications at phases 0, 1, 2 to meet changing demands.

2. Financial - Slippage / delay in the programme incurs additional costs: Instruct appointed project team to address this within Risk Register. Select procurement route to ensure contract type has less risk.
3. Delays in partner approval: Seek early conclusion in advance of full business case with regular status reviews with partners.
4. Delays to procurement processes: Seek early agreement on appropriate procurement routes and early notification of contract opportunities.
5. Failure to deliver anticipated outputs and outcomes: Ensure DPMC business case addresses sensitivity of outcomes with clear Evaluation & Monitoring Framework.

Constraints and Dependencies

The main dependencies and constraints include:

- The commercial viability of the project, including assessment of market conditions.
- The site conditions for Phase 1 but in particular, Phase 2, for the new-build;
- Capital and revenue budgets to be secured from the Growth Deal and from other funding sources

Phase 1 of the project is subject to the following dependencies that will be carefully monitored and managed throughout this phase of the project:

- FBC endorsement by Government
- Lease agreement between UoS and Booth Welsh
- Licence for works agreement between UoS and NAC
- Approval of FBC by NAC Cabinet
- Approval of the FBC and related tender by Ayrshire Joint Committee
- Award of contracts by NAC and UoS following Joint Committee approval
- Recruitment of staff for the facility
- Demand from businesses for the services
- Businesses taking up membership of the facility
- Availability of a skilled workforce to take up the job opportunities created by the Centre;
- Input from local schools and colleges for work placements and training outcomes;

1.3 Economic Case

1.3.1 OBC long list and short list

The long list options are summarised in the tables below. It should be noted that these options are ultimately focussed on the delivery of Phase 2 of the project with the delivery of Phase 1 being an option. The following ratings have been applied within the tables:

0	0	The option does not meet the criteria
2	2	The option partially meets the criteria
3	3	The option satisfies the criteria

Table 2: Long-list summary options 1-4

	Option #	Option 1: Do nothing / baseline	Option 2: NMIS undertake a reduced scope	Option 3: NMIS own DPMC, locate in Irvine	Option 4: Ayrshire College own the DPMC with a reduced scope
Ref	Investment Objectives (IO)				
IO1	Establish the Digital Process Manufacturing Centre's facility infrastructure and ensure operational readiness	0	2	3	0
IO2	Create digital process manufacturing partnerships, and establish new collaborations and supply chains	0	3	3	2
IO3	Develop a national digital process manufacturing research agenda	0	3	3	0
IO4	Build a digital manufacturing training and skills programme tailored to the process manufacturing sector	0	3	3	3
	Critical Success Factors (CSF)				
CSF01	Increased productivity through innovation of digital technology	0	3	3	2
CSF02	Stimulate the process manufacturing sector to adopt digital technology to increase competitiveness and help attract attract foreign and inward investment and reduce carbon footprint.	0	3	3	2
CSF03	Catalyse job creation and strengthen supply chain links for the processing sector through digital technology	0	3	3	3
CSF04	Skills and workforce development for the process manufacturing sector	0	3	3	2
CSF05	Maintain and increase digital manufacturing capabilities in North Ayrshire without displacing or removing jobs/companies	0	0	3	3
CSF06	Ensure the project is affordable using AGD sources matched against other sources.	0	0	2	3
CSF07	Ensure the project is deliverable by NMIS / University of Strathclyde in partnership with North Ayrshire Council and Ayrshire College.	0	0	3	0
	Other criteria (OC)				
OC1	Impact for industry	0	2	3	2
OC2	Cost to deliver option	0	3	2	2
OC3	Risk to deliver option	0	3	2	2
OC4	Length of time to deliver option	0	3	3	2
OC5	Jobs created	0	2	3	0
OC6	How easy to secure funding (Initially and on-going)	0	3	2	0
	Reasons for rejection	Does not meet criteria.	Carry forward.	Preferred option.	AC has insufficient experience to operate an innovation centre.
	Summary	0	39	47	28
	Outcome	Discounted option.	Carry forward.	Preferred option.	Discounted option.

Table 3: Long-list summary options 5-9

	Option #	Option 5: NAC own DPMC, tender for operator	Option 6: Trade Association	Option 7: CPI own DPMC, locate in Irvine	Option 8: Other locations for NMIS owned DPMC, e.g.	Option 9: DPMC phase 1 only
Ref	Investment Objectives (IO)					
IO1	Establish the Digital Process Manufacturing Centre's facility infrastructure and ensure operational readiness	3	0	3	3	2
IO2	Create digital process manufacturing partnerships, and establish new collaborations and supply chains	3	3	2	3	2
IO3	Develop a national digital process manufacturing research agenda	0	0	2	3	2
IO4	Build a digital manufacturing training and skills programme tailored to the process manufacturing sector	2	0	3	3	2
Critical Success Factors (CSF)						
CSF01	Increased productivity through innovation of digital technology	0	2	3	3	3
CSF02	Stimulate the process manufacturing sector to adopt digital technology to increase competitiveness and help attract attract foreign and inward investment and reduce carbon footprint.	0	0	3	3	3
CSF03	Catalyse job creation and strengthen supply chain links for the processing sector through digital technology	2	2	3	3	3
CSF04	Skills and workforce development for the process manufacturing sector	2	0	3	3	3
CSF05	Maintain and increase digital manufacturing capabilities in North Ayrshire without displacing or removing jobs/companies	3	0	3	0	3
CSF06	Ensure the project is affordable using AGD sources matched against other sources.	2	0	3	0	3
CSF07	Ensure the project is deliverable by NMIS / University of Strathclyde in partnership with North Ayrshire Council and Ayrshire College.	0	0	0	0	3
Other criteria (OC)						
OC1	Impact for industry	0	0	3	3	3
OC2	Cost to deliver option	2	3	2	2	3
OC3	Risk to deliver option	2	3	0	0	3
OC4	Length of time to deliver option	2	2	0	3	3
OC5	Jobs created	2	2	3	3	3
OC6	How easy to secure funding (Initially and on-going)	0	0	2	0	3
	Reasons for rejection	NAC has insufficient experience to operate an innovation centre.	Will not drive innovation or research, will not create impact for industry.	Not a strategic priority for CPI to lead the development of the DPMC, instead positioned as a strategic partner with NMIS	Not in line with key partners strategic priorities to establish a North Ayrshire located innovation centre.	Carry forward.
	Summary	25	17	38	35	47
	Outcome	Discounted option.	Discounted option.	Discounted option.	Discounted option.	Carry forward.

The following options from the long-list were carried forward for further analysis as part of the short-list options:

Option 2: NMIS deliver DPMC with a reduced scope

NMIS recruit additional staff, with processing sector experience/skills and invest in equipment that aligns with processing sector / sub sectors, then utilise current and planned building and facilities to locate new staff and equipment.

Option 3: DPMC owned by NMIS as Specialist Technology Centre, located in Irvine

NMIS own the DPMC, the DPMC will be a NMIS specialist technology centre, located in Irvine, North Ayrshire. NMIS will rent building from North Ayrshire Council. The NMIS DPMC would have a strategic partnership with CPI/MMIC.

Option 9: Deliver Phase 1 only

Undertake the DPMC as outlined in option 3, but only complete phase 1, do not initiate phase 2.

In summary, the results of the economic appraisal were as follows:

Table 4: The Preferred Option

Evaluation Results	Do nothing	Option 2 Reduced scope	Option 3 NMIS owned, in Irvine	Option 9 Phase 1 only
Economic Appraisal	4	3	1	2
Benefits Appraisal	4	3	1	2
Risk Appraisal	2	4	1	3
Overall Ranking	3 rd =	3 rd =	1 st	2 nd

The conclusion of the economic appraisal is that Option 3, - a DPMC facility operated by NMIS and located within Irvine, is the preferred option. Option 3 had the highest aggregate score, which means that it performed well with respect to its ability to deliver economic benefits, be within manageable risk tolerances, and support each of the project's investment objectives.

Whilst Option 3 was the preferred option there was an overall agreement between the partners that a Phase 1 pilot was required to test the feasibility of the preferred option and to help mitigate any risks for Phase 2.

1.3.2 The procurement

The procurement for the Phase 1 DPMC project involves two main separate processes being undertaken to procure refurbishment works to the location of the Phase 1 project location and to procure the equipment for the Phase 1 centre. North Ayrshire Council is procuring the refurbishment works and University of Strathclyde is procuring the equipment. Its anticipated that procurement of the equipment will be undertaken through a number of sources and the processes that the University of Strathclyde will follow are set out in the Management Case of this FBC.

North Ayrshire Council sought tenders through Public Contracts Scotland (PCS) Portal for contractors to undertake refurbishment works to the Phase 1 project site – at Booth Welsh, 3 Riverside Way, i3 in Irvine. The Council had an available budget of £0.66M for this aspect of the works and pre-tender costs projections had estimated the likely cost to be £0.545M. The scope of works involved internal alterations to the ground floor and mezzanine area of a warehouse space to create the Phase 1 DPMC.

As part of the Council's Community Wealth Building Strategy the Council approached a number of local contractors to make them aware of the opportunity and to encourage them to bid.

A total of nine suppliers submitted tenders and were assessed at the pre-qualification stage by the NAC's Corporate Procurement Team, in terms of initial pass / fail criteria and by the service team in terms of previous experience, following which eight suppliers proceeded to the quality evaluation stage. At the evaluation stage the assessment was made based on 60% cost and 40% quality. Suppliers were assessed against a number of criterion for quality. The quality bids are then evaluated by the evaluation panel and this meeting is facilitated by

procurement (who do not assess the bids) who agree a consensus score and record debrief comments.

A total of six suppliers then proceeded to the commercial envelope stage where five bidders were scored overall and a competent bid was identified from the highest scoring contractor.

1.3.3 Key findings and the preferred option

The findings from the procurement for this aspect of the DPMC project relate to the quality and cost assessment of bids related to capital expenditure for the refurbishment works. The quality and commercial assessments identified a preferred bidder for the works and in accordance with the tender process this supplier should be the preferred bidder based on their combined scores.

1.4 Commercial Case

1.4.1 Agreed products and services

For Phases 1 & 2 of DPMC the required services for use and procurement of DPMC will generally relate to the creation & management of the following spaces:

- Demonstration laboratory
- VR/AR suite
- Open plan office space for staff
- Training/lecture space
- Flexible meeting rooms/space
- Kitchen
- Centre hub and service desk
- Flexible/incubator space

Goods and services are being sought as part of one fixed price contract for Phase 1 of the DPMC as part of this FBC. This relates to the refurbishment of the space involving demolitions, structural metalwork, carpentry, partitions, doors and shutters, stairs, floor, wall, ceiling and roof finishes, mechanical and electrical works and decoration.

The Tenderers were invited to submit tenders on a fixed price basis and were then evaluated on a commercial basis by cost consultants and on a quality/technical basis by University of Strathclyde/North Ayrshire Council and other members of the design team where applicable. **It should be noted that the tender remains open for a period of 120 days from the tender return date (01 June 2022). The tender will expire on 29 September 2022.**

1.4.2 Agreed risk allocation and charging mechanism

Risks that could affect the successful implementation of the project have been identified and are set out in detail in the risk register attached as Appendix E. This includes details of risk owners, risk evaluation and mitigation measures. In terms of this FBC, the general principle of 'risk passed to the party best able to manage them' subject to value for money, has been applied. It has been agreed that service risks will be apportioned in the design, build and operational phases of Phase 1. A key risk at the moment is the uncertain length of time to endorse and approve the FBC prior to the award of the refurbishment contract within the required timescale and the claiming of grant from Scottish Enterprise which SE have flagged as a risk if there are delays to the project.

The payment mechanism agreed with the service provider with respect to the planned refurbishment works will involve submission of invoices by the contractor at agreed stages of the works, which will be certified by the consultants' team to NAC for payment. NAC will then submit a grant claim to Scottish Enterprise in retrospect for the works.

1.4.3 Key contractual arrangements

The contract is SBCC Standard Building Contract with Quantities for use in Scotland (SBC/Q/Scot), 2026 Edition. A copy of the contract can be provided should this be required. The key contractual clauses are:

- Retention Percentage – 5%
- Contractors Insurance – injury to persons or property - £2,000,000
- Insurance – Liability of Employer - £5,000,000
- Insurance Options
- Contractors Designed Portion Professional Indemnity Insurance
- Joint Fire Code

There are no personnel implications and TUPE does not apply.

1.4.4 Agreed implementation timescales

The key milestones and delivery dates for the overall Phase 1 project are shown in detail in the table below. In summary, the key dates for the refurbishment aspect of this project are critical to ensure that the Phase 1 space is created to enable opening of Phase 1 by December 2022. These dates are as follows:

Table 5: DPMC project milestone activity – Phases 1

Ref.	DPMC PHASE 1: Milestone Activity	Est. Date	Quarter (financial year)	Status
1-M1	NMIS & CPI obtain Board endorsements for project.	Jun 21	Q1 21/22	Complete
1-M2	Submit OBC to Scottish Enterprise seeking capital investment in Phase 1	Aug 21	Q2 21/22	Complete
1-M3	Third party land and building purchase process from landlord is completed.	Oct 21	Q1 21/22	Complete
1-M4	NAC Cabinet Approval of Phase 1 & £1m capital	Nov 21	Q3 21/22	Complete
1-M5	NMIS procurement and appointment of consultants to develop detailed Ph1 spec.	Nov 21	Q3 21/22	Complete
1-M6	NMIS conclude heads of terms and lease agreement for Ph1 building with third party.	Mar 22	Q4 21/22	Ongoing
1-M7	Partners signing of Collaboration Agreement	Mar 22	Q4 21/22	Complete
1-M8	NAC completes partner funding agreements	Mar 22	Q4 21/22	Ongoing
1-M9	NMIS submit building warrant	May 22	Q4 21/22	Complete
1-M10	Partners develop and agree spec and procurement approach for equipment	Aug 22	Q2 22/23	Ongoing
1-M11	Submit Programme Business Case to PMO	May 22	Q1 22/23	Complete
1-M12	Procurement of equipment (tbc)	Oct 22	Q4 22/23	Ongoing
1-M13	NAC tender refurb works through Quick Quote	May 22	Q1 22/23	Complete
1-M14	NAC submits FBC to Government for endorsement	May 22	Q1 22/23	Not Started
1-M15	PBC approved by Government	Jun 22	Q1 22/23	Complete

Ref.	DPMC PHASE 1: Milestone Activity	Est. Date	Quarter (financial year)	Status
1-M16	NMIS receive tender returns for equipment	Sep 22	Q3 22/23	Ongoing
1-M17	Endorsement of FBC by Government	Aug 22	Q2 22/23	Not started
1-M18	Approval of FBC for Phase 1 by Joint Committee & award to contractor	Aug 22	Q2 22/23	Not Started
1-M19	Contractor commences refurb works to Phase 1 space	Sept 22	Q2 22/23	Not Started
1-M20	NMIS staffing recruitment	Dec 22	Q3 22/23	Ongoing
1-M21	NMIS install and test equipment in Ph 1 space	Dec 22	Q3 22/23	Not Started
1-M22	NAC complete refurb works to Phase 1 space & submit grant claim	Dec 22	Q3 22/23	Not Started
1-M23	NMIS commence operation of Phase 1 (5 yrs)	Dec 22	Q3 22/23	Not Started
1-M24	Official launch of Phase 1	Jan 23	Q4 22/23	Not Started
1-M25	Annual reporting, reviews and monitoring	til Apr 27	Q4 26/27	Not Started
1-M26	NMIS completes operations at Pilot facility	Apr 27	Q1 27/28	Not Started

1.4.5 Accountancy treatment

The assets underpinning delivery of this service will be on the balance sheet of the partner organisations. As project lead, the University of Strathclyde's Annual Reports comprise the Statement of Principal Accounting Policies, Statement of Comprehensive Income and Expenditure, Statement of Changes in Reserves, Balance Sheet, and Statement of Cash Flows. The financial reporting framework applied in their preparation is applicable law and United Kingdom Accounting Standards including FRS 102 "The Financial Reporting Standard applicable in the UK and Republic of Ireland" (United Kingdom Generally Accepted Accounting Practice).

1.5 Financial Case

The financial implication of this procurement is a commitment by North Ayrshire Council, as a partner in the project, to a contract with a maximum value of £660,000 for the refurbishment of the Phase 1 location over the course of 16 weeks. In addition, this FBC seeks endorsement of the overall investment for Phase 1, and in particular, the investment of £1M of AGD funds in Phase 1. All of the capital funds for this aspect of the project are committed and comprise of the following;

Table 6: DPMC Phase 1 - Source of Capital Funds

Source	Amount
North Ayrshire Council AGD contribution	£1,000,000
Scottish Enterprise Grant (to be claimed)	£515,000
North Ayrshire Council additional contribution	£48,300
University of Strathclyde additional contribution	£48,300
Centre for Process Innovation additional contribution	£48,300
Total	£1,659,000

Further procurement actions will be taken for Phase 1 by University of Strathclyde, to procure equipment and staff.

1.5.1 Financial expenditure

The financial expenditure for this procurement will take place across one financial year - 22/23 (excluding retention) and the contract is expected to be complete by December 2022. The Council will submit a grant claim to Scottish Enterprise when the works are completed.

1.5.2 Overall affordability and balance sheet treatment

The proposed works have been the subject of a best value procurement exercise and represent the works required to create the space to launch the Phase 1 pilot facility. The award of the tender will require to be signed off by the Ayrshire Joint Committee, following approval from NAC's own Cabinet. The partners have ensured there are sufficient funds in place to cover the refurbishment works and the tender cost is below the budget available.

North Ayrshire Council require permission to undertake the works to the premises which the University of Strathclyde will lease from Booth Welsh. These commitments are included within a Collaboration Agreement for Phase 1, signed by all three partners (see Appendix Q).

Additional funding requirements for Phase 1 relate to equipment and operational costs, including recruitment, for which funding is in place.

1.6 Management Case

1.6.1 Project management arrangements

The refurbishment aspect of Phase 1 will be managed by a team of consultants and by the University of Strathclyde's Estates team acting as project manager and clerk of works, on behalf of NAC, this will include regular site visits by the clerk of works and regular progress meetings with the appointed contractor. University of Strathclyde will manage all aspects of the procurement and installation of equipment, which will take place as a subsequent stage in Phase 1 arrangements. It should be noted that not all of the equipment funded by NAC's £1M will be purchased initially and is likely to happen in phases with tranches of grant funding being awarded to University of Strathclyde. Arrangements for this process are set out in the Management Case.

1.6.2 Benefits realisation and risk management

The AGD PMO recently produced a Benefits Realisation Plan for the AGD projects. The purpose of the Plan is to demonstrate, to local, regional and national stakeholders, how the AGD will capture the outputs, outcomes, impacts and community benefits resulting from Deal investments including the DPMC project at i3. It sets out approaches to project monitoring and reporting, including definitions guidance and deal programme and project evaluation

The partners' Supervisory Group will be responsible for managing risk and benefits realisation for Phase 1 of the project. NAC will manage benefits realisation through reporting to the PMO and Government. Day to day management will, however, be the responsibility of the DPMC Project Manager.

1.6.3 Post project evaluation arrangements

The project will have an annual review and will also commission an evaluation of the project activity and delivery against agreed objectives, in accordance with the Benefits Realisation Plan.

1.7 Recommendation

At this stage, the partners are seeking approval for the Full Business Case for investment in Phase 1 of the DPMC project. Additional FBCs may be required later relating to further

spend of the overall £1m allocation to Phase 1. An FBC will be submitted in late 2023 for Phase 2.

I hereby recommend the approval of the scheme as set out in this Full Business Case to proceed to delivery of the scheme.

Signed:

Date: 3 August 2022

**Senior Responsible Owner
Project Team**

2. Strategic Case

2.0 Introduction

This Full Business Case is for the approval of investment in Phase 1 of the DPMC project at i3 in Irvine. In particular, it is focussed on appointing a contractor for the refurbishment of Phase 1 as a pilot project.

Structure and content of the document

This FBC has been prepared using the agreed standards and formats for business cases. The approved format comprises the following key components:

- **strategic case** section sets out the case for change, together with the supporting investment objectives for the project.
- **economic case** section demonstrates that the organisation has selected the most economically advantageous offer which best meets the existing and future needs of the service and is likely to optimise value for money (VFM)
- **commercial case** section sets out the content of the proposed deal
- **financial case** section which confirms funding arrangements, affordability and the effect on the balance sheet of the organisation
- **management case** section which details the plans for the successful delivery of the scheme to cost, time and quality.

The purpose of the strategic case is to explain and revisit how the scope of the proposed project or scheme fits within the existing business strategies of the organisation and provides a compelling case for change, in terms of existing and future operational needs.

To note, the Strategic Case remains the same, as set out previously within the recently approved Programme Business Case. The following scope changes were made between North Ayrshire Council's (NAC) Strategic Outline Case (SOC) document and the PBC, these included:

Detail to the concept but the fundamentals of the project as set out in the North Ayrshire Heads of Term's and SOC are unchanged and provide for:

- DPMC (Digital Processing Manufacturing Centre) is the working title and replaces the Digital Automation & Innovation Centre (or DigiLab) referred to in the SOC.
- NAC / Strathclyde University / NMIS form the core partnership working within the framework of innovation centres with strategic partnership with CPI/MMIC.

The DPMC project development with the partners has extended the scale and developed closer links with NAC's i3 Flexible Space with the project now providing:

- Phase 0 training and demonstration modules of digital technology.
- Phase 1 DPMC Pilot and Phase 2 with the development of the main DPMC facility.
- Increased level of investment Partner/Cross Funding/Grant investment.

Ayrshire Growth Deal

The Ayrshire Growth Deal agreement (November 2020) commits the Scottish Government and UK Government to work collaboratively with the Ayrshire Councils and regional partners to deliver the Ayrshire Growth Deal that will help transform the Ayrshire economy. The AGD agreement advises the following regarding the DPMC:

Both Governments and North Ayrshire Council, will support new developments at the i3 Irvine Enterprise Area Advanced Manufacturing Space in Irvine, which will create a National Digital Processing Industry Hub and advanced manufacturing flexible space. This will serve digital processing industries, building on current Life Science Clustering at the site, and facilitate R&D activity, start up, spin out, and growth of Life Science businesses and other advanced manufacturing opportunities. This will see investment of up to £11 million from the Scottish Government, £5 million from the UK Government, and £5 million from North Ayrshire Council. The National Digital Processing Industry Hub will be developed at i3 with links to the National Manufacturing Institute for Scotland in partnership with Strathclyde University and industry. The project also includes construction of flexible business space capable of meeting the requirements of Chemical and Life Sciences manufacturing, Digital Automation and other advanced manufacturing opportunities. The combined offer at i3, centred round the National Digital Processing Industry Hub, will attract a range of supply chain and digital technology SMEs and start-ups and offer strategic capacity to secure major digital process sector investment at i3.

Scheme Development

The Digital Manufacturing Processing Centre (DPMC – previously titled DigiLab/ DigiHub) proposals reflect the AGD Deal Documents and form a critical component of the Ayrshire Growth Deal programme. The DPMC proposal both reflects and is supported by national, regional and local policies that provide a strong strategic case for the project. The policy context is substantially unchanged since PBC.

Part A: the strategic context

2.1 Organisational overview

Since the development of NAC's Strategic Outline Case (SOC), NAC been working with the DPMC partners and stakeholders. A Memorandum of Understanding was signed by the partners in August 2021, to commit to Phase 0 of the project, following which a Collaboration Agreement (Appendix Q) has been signed by the partners in March 2022, to commit to Phase 1 of the project. The key partners and their roles and responsibilities are set out below:

University of Strathclyde / NMIS

Lead Partner for the DPMC (phase 0: training & demonstration; phase 1: pilot and phase 2: main facility) working closely in partnership with North Ayrshire Council and CPI/MMIC. The project will enable the University to become an important academic anchor institution within Ayrshire and support North Ayrshire's Community Wealth Building Strategy.

UoS/NMIS will lead the training and operational phases on behalf of the partnership with responsibility for all activities associated with the training (Phase 0) and operational facility (Phase 1 pilot and Phase 2 main facility). This will include:

- Delivering modules of training and demonstrations of digital technology, from the National Manufacturing Institute Scotland (NMIS) Manufacturing Skills Academy (Phase 0).
- Providing Operational Leadership and managing the DPMC centre (Phase 1 and Phase 2) and the network of partners /stakeholders associated with innovation, process manufacturing and digital skills.
- Project Management of DPMC and all operational management of the centre to support the partnership and ensure the success of the centre and the delivery of the project objectives.
- Resource the centre with appropriate expertise / staffing.

- Procure all specialist equipment / demonstrator / specialist services to ensure the centre offers a 'state-of-the-art' experience and capability within the various Digital Process Manufacturing sectors / industry users
- Operate alongside partners to develop industry engagement programmes aligned to Industry 4.0.

North Ayrshire Council

Lead Partner for the DPMC (Phase 1: pilot and Phase 2: main facility) working closely in partnership with University of Strathclyde, NMIS and CPI. NAC will act as an enabler and facilitator for the project, using the Ayrshire Growth Deal investment as a catalyst.

Project Leadership and Management to support the partnership and align the various elements of the project. This will include but is not limited to:

- Masterplanning for i3, including planning, masterplanning and conceptual development of DPMC (Phase 1: pilot and Phase 2: main facility) and future i3 flexible space;
- Supporting Phase 1 through £1m AGD funds and procurement of the refurbishment works;
- Securing the remaining capital funding required to enable the delivery of Phase 2; and
- Land assembly to enable the delivery of Phase 2.

CPI

Centre for Process Innovation (CPI) connects academia, businesses and funders to bring bright ideas and research into the marketplace. CPI as one of the DPMC's strategic partners, is the leader in process manufacturing for the UK. The DPMC will work closely with CPI to close the gaps in capability for UK industry. CPI's mission is to ensure that every great invention gets the best opportunity to become a successfully marketed product or process. CPI provides industry-relevant expertise and assets, supporting proof of concept and scale-up services for the development of innovative products and processes. CPI has extensive knowledge and application of innovation processes and process manufacturing technologies that allows CPI and partners to support technology uptake and knowledge transfer across the key process industry sectors. CPI and Strathclyde University are working together to deliver the Medicines Manufacturing Innovation Centre (MMIC).

- Strategic Process Technology and Innovation Partner
- Process Industry Innovation Network

The partners are currently discussing what partner would be best placed to take the lead responsibility for the design, procurement and ownership of the Phase 2 facility. In addition, Ayrshire College will play a key role within the project where funding allows and has been on the project's Steering Group since its inception.

2.2 Business Strategies

The purpose and remit of the DPMC aligns across a breadth of local, regional, national and UK policies. Summaries of relevant plans, policies and strategies have been outlined in the following tables.

2.2.1 Strategic Policy Context

The broad policy framework is summarised with additional supporting information on specific policies. The following table provides an overview of relevant policies and strategies.

Table 7: Summary of policies aligned with the DPMC

UK Policy Context	Scottish Policy Context	Regional / Local Policy Context
UK Industrial Strategy, 2018	Scotland's Economic Strategy	Ayrshire Economic Strategy 2020
Econ Dev. Strategy (DFiD 18)	Programme for Government (PfG), Scottish Government, 2019	North Ayrshire Council Plan
Innovate UK - 5-point Plan for Economic Growth	Manufacturing Action Plan A Manufacturing Future for Scotland 2016	North Ayrshire Council Local Development Plan LDP2
UK Research & Innovation: Strategic Prospectus: Building the UKRI Strategy	Life and Chemical Sciences. Manufacturing Strategy for Scotland	Skills Development (RSIP)
UK Technology Innovation Strategy, 2019	Life Sciences Strategy for Scotland 2025 Vision	Regional Inclusive Growth Diagnostic
Innovate UK: Delivery Plan 2019	Chemical Sciences Scotland Strategic Plan 2025	A Manufacturing Future for Scotland, 2016
	Scottish Life Sciences Strategy 2011	EDR Strategy Refresh Regeneration Strategy (replaced with Ayrshire Economic Strategy)
	Skills Investment Plan for Scotland's life and chemical sciences	Ayrshire Growth Deal Programme
	Inward Investment Plan October, 2020	North Ayrshire Council Community Wealth Building Strategy 2020-2025
	Scottish Manufacturing Advisory Service	North Ayrshire Council Economic Recovery and Renewal Approach, Sept. 2020
	Realising Scotland's full potential in a digital world: a digital strategy for Scotland, 2017	
	Building Scotland's Future Today Scottish Enterprise 2019-2022	
	Climate Change Plan Scottish Government 2019	
	Sustainable Performance Scottish Government 2020	
	Making Scotland's Future: A Recovery Plan For Manufacturing	

2.2.2 UK and National Policy Alignment

The DPMC project will deliver against the policy objectives of key strategies set out at both the Scottish and UK national levels.

The proposition is also in line with the Scottish Government's inclusive growth and inward investment agendas, targeting regional imbalances in economic activity and recognising the importance of digitalisation for the economy. The key messages from these strategies, and the potential opportunities for the DPMC, are outlined below.

Table 8: Summary of UK and National Policy Alignment

Strategy	Headline objectives	Potential opportunities for DPMC
UK Industrial Strategy	<p>Building on the strengths and extending excellence into the future</p> <p>Closing the gap between the UK's most productive companies, industries, places and people, and the rest</p> <p>Making the UK one of the most competitive places in the world to start or grow a business</p> <p>Moves away from a sector-based view and recognises the importance of cross-sector collaboration. The key opportunities are organised around themes, labelled the four Grand Challenges: Artificial Intelligence (AI) and data, ageing society, clean growth, and future of mobility</p>	<p>Aligned with the objective of using innovation to drive productivity and earnings, and in doing so capture global opportunities</p> <p>A broader focus would encourage collaboration between sectors (e.g. life sciences, pharmaceuticals, processing industry) which, in turn, has the potential to help address the Grand Challenges</p>
Innovate UK - 5-point Plan for Economic Growth	<p>Accelerating UK Economic Growth</p> <p>Building on innovation excellence</p> <p>Development catapults</p> <p>Working with the research community and across government</p>	<p>The facility will reposition the regional economy (in alignment with the national economy) to be more resilient and attractive to investment, improve skills and employment</p> <p>Develop a market lead in digital processing capabilities</p>
UK Research & Innovation: Strategic Prospectus: Building the UKRI Strategy	<p>Work with our partners to ensure that world-leading research and innovation continues to grow and flourish in the UK</p> <p>Support and help to connect the best researchers and businesses</p> <p>We will invest every pound of taxpayers' money wisely in a way that generates excellent outcomes and ultimately impact for citizens, in the UK and across the world</p>	<p>Attracting inward investment</p> <p>Development of R&D</p>
UK Technology Innovation Strategy, 2019	<p>The UK Industrial Strategy sets out the Government's ambition to make the UK the world's most innovative economy and place us at the forefront of the technologies of the future.</p>	<p>This strategy focuses on emerging digital technologies</p> <p>Across all sectors of the economy, the pace of digital transformation is pushing fundamental changes in the capability requirements of organisations.</p>

Strategy	Headline objectives	Potential opportunities for DPMC
Innovate UK: Delivery Plan 2019	Accelerating the development of new products, processes, services and business models based on new ideas and technologies drives productivity, increases exports, grows businesses and generates prosperity.	Support and invest in innovative businesses and entrepreneurs with the potential and ambition to grow. Identify, support and grow transforming and emerging industries through innovation
Scotland's Economic Strategy	Increasing growth and tackling inequality through investment, innovation, inclusive growth and regeneration Need for locally-focused and community-based approaches, specifically recognising the persistent economic challenges in North Ayrshire	Developing Scotland's capability in life sciences – one of the key growth sectors identified in the strategy Helping to foster a culture of innovation and R&D Supporting inclusive growth and creating opportunity through regional cohesion
A Manufacturing Future for Scotland + MffS Action Plan	More widespread, deeper, sector led and open innovation – innovative manufacturing and the utilisation of leading-edge technologies are drivers of competitive advantage Co-ordinating national innovation resources and assets to be appropriate for the manufacturing base Creating an environment where businesses of all sizes and in all manufacturing, sectors can innovate and adopt new novel technologies Building on Scotland's Digital Future this action plan will support and implement additional measures to encourage and support our manufacturing businesses to put investment in the best available technologies at the core of their business going forward. Work with Innovate UK to align interventions and promote opportunities around digital for manufacturing, driving manufacturing readiness and stimulating innovation to uncover new sources of revenue from manufacturing.	Linking up with NMIS and other centres of excellence Enabling collaboration between businesses, RTOs and academia by providing a focal point and promoting an open innovation ethos National capability is also strengthened by aligning company challenges to world leading insights of University departments and those contained within Catapult27 and Innovation Centres Co-ordinating national innovation resources and assets to be appropriate for the manufacturing base is key. In particular, interaction with both new and existing centres of excellence will provide an environment where innovation and demonstration opportunities can be developed.
Life and Chemical Sciences. Manufacturing	Establishing a strong platform for manufacturing growth through strong communication between the Life and Chemical Sciences sectors	Enabling commercialisation of research by providing a focal point between academia and industry

Strategy	Headline objectives	Potential opportunities for DPMC
Strategy for Scotland	Improving the translation of research into application Strengthening UK's case (including supply chains) for manufacturing businesses looking to re-shore	Building up service offering at i3 and within the Digital Campus / DPMC to attract businesses
Scotland's Inward Investment Plan October, 2020	The Plan focuses efforts on nine areas of opportunity where Scotland has global strengths. The Plan acknowledges that the Covid-19 crisis has placed digital at the forefront of the response and subsequent recovery steps across the private, public and third sectors Key role to grow Scotland's manufacturing sector, strengthen supply chain linkages and increase productivity using advanced manufacturing technologies such as automation, AI and digital manufacturing techniques	Priority will be given to investors who can build local supply chains, provide new skills and invest in research. The Scottish Government will focus resource on strategic investments, aiming ultimately to allocate up to £20 million a year. Nine priorities and three themes underpin Inward Investment. 3 themes all applicable to i3 and DPMC are: Digital / High Value Manufacturing / Net Zero.
Chemical Sciences Scotland Strategic Plan 2025	Establishing Scotland as a world class centre of high value manufacturing through increased industrial engagement with the centres of innovation directly related to manufacturing	Developing Scotland's chemical sciences capability Linking up with NMIS and other centres of excellence, e.g. CMAC at the University of Strathclyde
Life Sciences Strategy for Scotland 2025 Vision	Making Scotland the location of choice for Life Sciences businesses, researchers, healthcare professionals and investors while increasing Life Sciences contribution to Scotland's economic growth Four key priority areas: business environment, innovation & commercialisation, internationalisation, and sustainable production	Developing Scotland's life sciences capability Linking with the Life Sciences Innovation Centres, e.g. Stratified Medicine Scotland Innovation Centre, Industrial Biotechnology Innovation Centre, Digital Health and Care Institute, Scottish Aquaculture Innovation Centre, Centre for Sensor and Imaging Systems, and The Data Lab
Scottish Life Sciences Strategy 2011	Making the Life Sciences industry a significant contributor to Scotland's sustainable economic growth and establishing Scotland as the location of choice for Life Sciences companies	Developing Scotland's life sciences capability Enabling collaboration by linking academia and industry

Strategy	Headline objectives	Potential opportunities for DPMC
	Specific local opportunity areas around Assisted Living, Stratified Medicine, Wellbeing, and Sustainability Supporting faster growth of Life Sciences businesses through improved harnessing of academic and commercial capabilities to accelerate new product and service development, ultimately strengthening business offerings by building comprehensive supply chains and encouraging collaboration	
Skills Investment Plan for Scotland's life and chemical sciences	Four priority areas: addressing specific skill shortages, ensuring national coverage of skills and training provision, increasing exposure to, and understanding of, industry, enhancing practical experience	Developing Scotland's life and chemical sciences capability Encouraging engagement between HE/FE and industry A designated learning hub at site – similar to the Visitor/STEM Engagement Hub proposed in the Ayrshire Growth Deal
Scottish Manufacturing Advisory Service	Dedicated manufacturing support programme supported by Scottish Enterprise to support manufacturing business base identify efficiencies, adopt digital technologies, develop sustainable models, and identify supply chain opportunities	Digital automation centre for application and testing of equipment and technology to attract investment and support conversion of manufacturing businesses to advance manufacturing in Ayrshire.
Covid Scotland's Strategic Framework Oct 2020	COVID-19 threatens health and life, but also how we live our lives, and our shared prosperity. The Scottish Government, in common with other UK Nations, is committed to suppressing the virus to the lowest possible level, and keeping it there, until we have a vaccine and/or effective treatments, and the virus is no longer the threat it is now. There is no acceptable number of people we are willing to let become infected. Our approach and principles remain those we set out in our Framework for Decision-Making, based on clinical evidence, expert advice, and a balanced assessment of the risks.	The pandemic is a public health crisis, with global economic consequences unlike any we have seen before. Not only in terms of scale and speed of impact across the world. Our economic response and recovery programme initially focused on protecting the economy. Recent reports from both the Advisory Group on Economic Renewal and the Education and Skills Strategic Board have been clear that economic recovery needs to be grounded in well-being and a green recovery, with skills and jobs in the digital economy or

Strategy	Headline objectives	Potential opportunities for DPMC
		similar, and with a clear need to focus on the future of young people.
Sectoral Strategies 2020-2025	Pharmaceutical Products Oil & Gas Chemicals and Chemical Products Agrichemicals	All sub-sectors address the increasing cross sectoral value of digital process technologies, automation and digital applications are critical to productivity growth
Policies relevant for the processing sub-sectors	Food & Drink Fast moving commercial goods (FMCG) Water (collection, treatment, supply)	

2.3 Other organisational strategies

2.3.1 AGD Programme

The AGD programme links to Governments' objectives of increased growth and prosperity. Post the development of NAC's Strategic Outline Case, NAC has been working closely with the other Ayrshire Councils and has coordinated activity through the Ayrshire Growth Deal Leadership Group and Project Management Office (PMO). The project continues to focus on the high growth, high value process manufacturing sectors that can build on Ayrshire's general manufacturing strength. The partnership with University of Strathclyde and NMIS now offers the potential to build a national level facility in Ayrshire, based on the NMIS 'hub and spoke' model.

2.3.2 Regional Policy Context

The DPMC project has the potential to support two of North Ayrshire's economic development objectives: creating employment opportunities and positioning the area as a leading location for business within the Glasgow city region.

The four key local strategies are the Ayrshire Economic Strategy, North Ayrshire Council Plan, North Ayrshire Council's Community Wealth Building Strategy and the North Ayrshire Local Development Plan (LDP). These set out a long-term vision for growth and provide a policy framework for determining planning applications and policy context for Ayrshire Growth Deal projects. The following table outlines the key objectives of these documents and the potential opportunities for DPMC arising from them. In addition, Appendix A sets out how the project specifically aligns with Inclusive Growth and Community Wealth Building objectives.

The DPMC project has the potential to deliver against the policy objectives of key strategies set out at both the Scottish and regional levels. The proposition is also in line with the Scottish Government's inclusive growth agenda, targeting regional imbalances in economic activity. The key messages from these strategies, and the potential opportunities for DPMC are outlined below. In addition, NAC is currently preparing the Regional Economic Strategy for the area which will be of relevance to the DPMC project.

Table 9: Summary of Regional Policy context alignment

Strategy	Headline objectives	Potential opportunities for DPMC
Ayrshire Economic Strategy	<p>To achieve inclusive growth</p> <p>To improve the productivity and diversity of the Ayrshire economy using existing place and asset-based strengths and the catalytic investment of the Growth Deal</p> <p>To consolidate Ayrshire manufacturing heritage and capitalise on that to reposition Ayrshire as a leader in digital processing and life science technologies</p> <p>To provide strategic support to existing and new businesses in the transition to industry 4.0 standards through digitally-led transformation</p> <p>To increase R&D activity in Ayrshire</p> <p>To increase Ayrshire job density and inclusion in workforce</p>	<p>To establish a regionally and national significant centre of excellence in digital automation, which will secure university presence and act as a major draw to investment in i3 and Ayrshire.</p> <p>To provide a facility to support the linkages between Ayrshire Growth Deal programme of investment in advance manufacturing space with national programmes e.g. NMIS, MMIC</p>
North Ayrshire Council Plan 2019-2024	<p>The Plan sets out our ambitions, vision and mission for the next five years</p> <p>Our Vision:- A North Ayrshire that is 'Fair for All'.</p> <p>Our Mission:- Working together to improve well-being, prosperity and equity in North Ayrshire</p> <p>Our Priorities:</p> <p>Aspiring communities</p> <p>Inspiring places</p>	<p>Inspiring places references effective infrastructure and digital connectivity</p> <p>Priority Outcomes include:</p> <p>Working with schools, colleges, universities, businesses deliver education, Skills and training to sustain employment.</p> <p>Developing knowledge/ ability to participate digitally</p> <p>Support businesses to be more innovative and competitive.</p> <p>We will promote fair employment practices and implement a CWB strategy.</p>
Community Wealth Building	<p>The strategy sets out our ambitious plans to become a Community Wealth Building Council. We will work in partnership with our communities and businesses to create a fair local economy, reducing poverty and inequality.</p> <p>5 Pillars seek to strengthen existing local resources based on:</p> <p>Procurement</p> <p>Employment</p> <p>Land and Assets</p> <p>Financial power</p> <p>Plural Ownership</p>	<p>Work within localities to facilitate place-based Community Wealth Building activities on procurement, employment, assets and ownership.</p> <p>Promote Fair Work practices and position Ayrshire as a Fair Work region.</p> <p>Support and fund Community Wealth Building activity including social enterprises, employee ownership, cooperative development and</p>

Strategy	Headline objectives	Potential opportunities for DPMC
	Community Wealth Building is seen as a long term, transformative agenda for the Council, our partners and Ayrshire as a whole. Our Community Planning Partners have committed to supporting the development of a Community Wealth Building approach in North Ayrshire.	supplier development activities.
NAC Economic Recovery and Renewal Approach 2020	<p>The Covid-19 pandemic has had a major impact on our local economy and the Council has acted decisively to support our local businesses and communities who have been negatively affected by the economic impact.</p> <p>The approach recognises that as we emerge from the Covid-19 health and economic crisis, we cannot return to business as usual, and that is particularly the case with our economy where we must build back better, fairer and greener. We will use our economic levers across the Council and our new economic model of Community Wealth Building to develop a Green New Deal for North Ayrshire.</p>	<p>The approach to economic recovery and renewal will support an inclusive and green economic recovery. Green Jobs Fund to support just transition and green adaptation</p> <p>Investing in our commercial estate including improving the sustainability of assets</p>
North Ayrshire Local Development Plan (LDP)	<p>Following the Economic Development & Regeneration Strategy, the LDP sets out to safeguard key business and industrial sites</p> <p>Attracting new investment to our strategic business location, i3 in Irvine will be critical to increasing our employment offer. We will support the growth and development of our key sectors of manufacturing, engineering, life sciences, tourism and hospitality by ensuring that infrastructure development remains attractive in a competitive global marketplace.</p>	<p>i3 is identified as a strategic business location, including opportunities for a large single user or major multiple investments, as well as a high amenity business park</p> <p>Policy support specifically referenced in Spatial Strategy (c) Generate new employment opportunities by identifying a flexible range of business, commercial and industrial areas to meet market demands including those that would support key sector development i3 Irvine is south west Scotland's leading innovation and industrial investment location.</p> <p>As part of the Enterprise Area, new development within i3 enjoys the benefit of streamlined planning, building warrant and road construction</p>

Strategy	Headline objectives	Potential opportunities for DPMC
		consent processes through Planning Protocol.
Ayrshire Growth Deal Heads of Terms Agreement	<p>Help drive inclusive economic growth through creation of new high-quality jobs and opportunities</p> <p>Up to £11m from the UK Government for a subsea fibre optic cable to have its landing point in Irvine</p> <p>Digital infrastructure – up to £3m investment from the Scottish Government to attract global businesses, enable the potential creation of a datacentre cluster of national significance and make Ayrshire a world-class digitally connected region that is attractive to investors across many elements of the digital economy</p>	<p>Links to aerospace agenda</p> <p>Linking in with the digital infrastructure agenda</p> <p>Possible links with the sustainability agenda, e.g. with the Centre for Research into Low Carbon Energy and Circular Economy (CECE)</p> <p>The Digital Automation Innovation and Testing Centre facility has now been jointly developed with SU /NMIS as the Digital Processing Manufacturing Centre (DPMC) to be developed at i3 as part of a specialist process manufacturing focus within the wider i3 Life Sciences park.</p>

Part B: the case for change

2.4 Investment objectives

The investment objectives for the overall project are set out as follows and remain the same as those contained in the recent PBC:

Table 10: Investment Objectives and Benefits for Stakeholder Groups

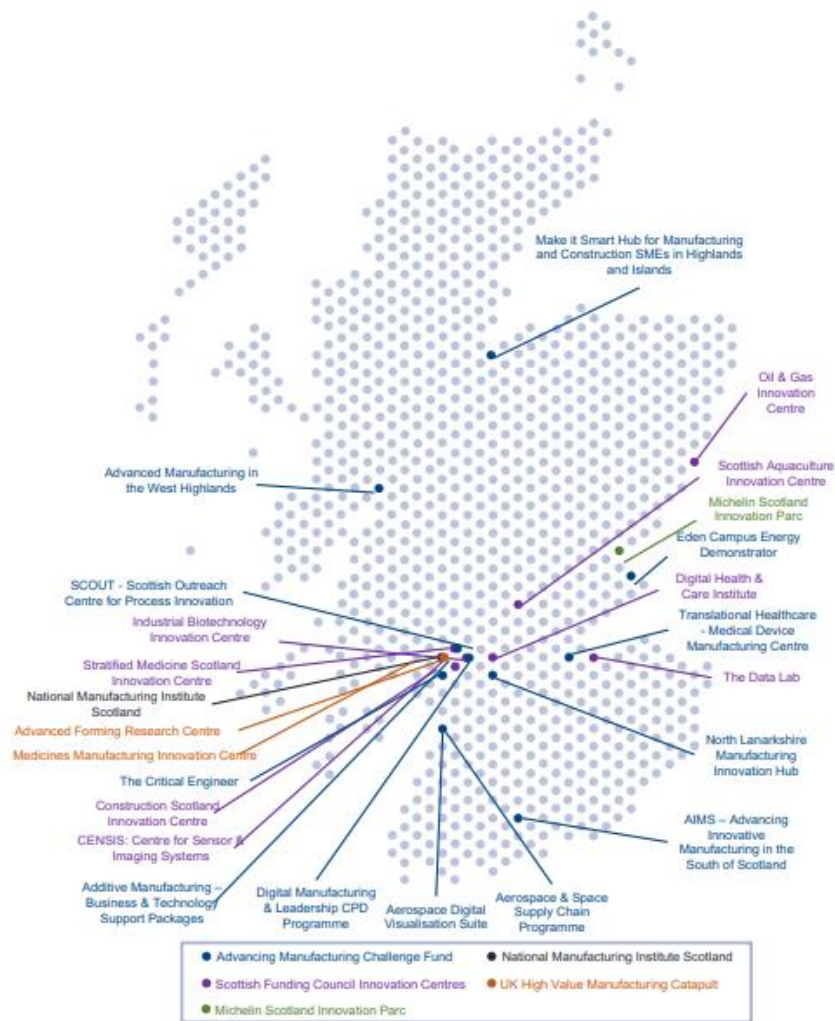
Ref	DPMC Investment Objective	Timeline	Measurement
IO-01	Establish the Digital Process Manufacturing Centre's facility infrastructure and ensure operational readiness: Create a nationally significant digital process manufacturing centre at i3, Irvine to support the process manufacturing sector and the restructure of the Ayrshire economy, building on North Ayrshire's sectoral strengths in life sciences, manufacturing and process engineering. The facility will be equipped with staff and equipment to demonstrate, develop and deliver digital technology to support the processing sector's digital challenges.	Phase 1 by Dec 22 Phase 2 by mid 25	<ul style="list-style-type: none"> No. of jobs created Amount of business and R&D space created No. of businesses assisted.
IO-02	Create digital process manufacturing partnerships, and establish new collaborations and supply chains: Establish a digital technology community that facilitates new supply chains, connections across the processing sector's sub-sectors, and enables collaborative research, development projects with industry processing sector,	By 2025	<ul style="list-style-type: none"> No. of organisations & companies participating in DPMC including SMEs Amount of revenue funding leveraged.

Ref	DPMC Investment Objective	Timeline	Measurement
	academia, and government and attracts inward investment.		
IO-03	Develop a national digital process manufacturing research agenda: Develop and deliver a pipeline of digital technology research and development projects for industry within the process manufacturing sector at to help industry benefit from understanding the cost and efficiency opportunities of applying digital technology to their processing production facilities, enabling them to explore adopting technology, and upskilling their workforce to utilise the digital technology.	From 23/24	<ul style="list-style-type: none"> No. of companies adopting new digital processes No. of R&D projects taking place.
IO-04	Build a digital manufacturing training and skills programme tailored to the process manufacturing sector, that provides skilled employment and training opportunities for local communities, schools and colleges: Create a training programme that focuses on all levels of management within industry organisations so that digital technology training and application in the processing sector can be tailored to specific industry role groups e.g. Executive, Management, Operations. Create a further training programme to support the inclusion of local communities and disadvantaged groups in the Centre and skills and training opportunities linked to local education providers.	From 23/24	<ul style="list-style-type: none"> No. of local people obtaining skilled employment & training opportunities No. of local people attending skills & training opportunities No. of school & college students participating in work experience / training programmes No. of people within disadvantaged groups participating in the DPMC project No. of study visits by schools, colleges and training providers.

2.5 Existing arrangements

This section considers the digital technology services already being offered to the process manufacturing sector and compares established services with what the DPMC scope will include as part of an initial gap analysis. There are no current Innovation Centres in Southern Scotland/ Ayrshire.

The illustration below has been sourced from the Scottish Government's Making Scotland's Future – Recovery Plan for Manufacturing. It shows the current network of support available to manufacturing companies throughout Scotland. In addition, there is a number of other projects that are currently being developed including the Ayrshire Manufacturing Innovation Corridor (AMIC) in Kilmarnock. This project is being supported through £23.5M from the Ayrshire Growth Deal and includes £10M to provide a centre of excellence that will focus on food and drink innovation. It's anticipated that DPMC could signpost any companies from the food and drink processing sectors that are being supported by DPMC's services, to the AMIC Centre for more specialist support.



Source: Making Scotland's Future – Recovery Plan for Manufacturing

2.5.1 Established services

A range of specialist innovation organisations, bodies and innovation centres and service providers exist across the UK. These are broadly summarised below in terms of UK, Scottish, and Ayrshire Regional support.

UK Research and Innovation (UKRI)

UK Research and Innovation (UKRI) is the national funding agency investing in science and research in the UK. Operating across the whole of the UK with a combined budget of more than £6 billion, UKRI brings together the 7 Research Councils, Innovate UK and Research England. UKRI is an executive non-departmental public body, sponsored by the Department for Business, Energy & Industrial Strategy, supported by 7 agencies and public bodies. The UK's world-leading status in research and innovation is in large part founded upon its network of internationally competitive, high-quality and accessible research and innovation infrastructure.

This includes:

- Large-scale physical research facilities, equipment and sets of instruments, such as synchrotrons, research ships, scientific satellites and 'living labs'

Digital Process Manufacturing Centre, Full Business Case, Phase 1 – V0.3

- Networks of technologies and e-infrastructures, including data and computing systems and communication networks,
- Knowledge-based resources, including scientific, cultural and artistic collections and archives.

Innovate UK

Innovate UK is the UK's innovation agency. Innovate UK is part of UK Research and Innovation, a non-departmental public body funded by a grant-in-aid from the UK government. Innovate UK specific mission is to drive productivity and economic growth by supporting businesses to develop and realise the potential of new ideas, including those from the UK's world-class research base. Centre for Process Innovation. Since 2007, Innovate UK have invested around £2.5 billion to help businesses across the country to innovate, with match funding from industry taking the total value of projects above £4.3 billion helping 8,500 organisations create around 70,000 jobs and added an estimated £18 billion of value to the UK economy. In April 2018, Innovate UK became part of UK Research and Innovation.

High Value Manufacturing Catapult (HVMC)

Established by Innovate UK, HVMC bridges the gap between business and academia, helping to turn great ideas into reality by providing access to world-class research and development facilities and expertise that would otherwise be out of reach for many businesses in the UK.

HVMC has 5 key roles:

- To grow businesses and the contribution of the manufacturing sector to the UK economy.
- Investigate innovative technologies or scale up new products and processes to prove they have achieved manufacturing readiness
- Work with academic partners to build on research at Universities and Research establishments in the UK and beyond
- Use their expertise to help shape UK manufacturing policy.
- Work with UK Government and others, to develop high quality training provision to meet industry needs.

Centre for Process Innovation (CPI)

Centre for Process Innovation (CPI) is part of the High Value Manufacturing Catapult. CPI use advanced digital technologies and platforms to help customers design products, devices, formulations and manufacturing processes. This enables industry to accelerate product development at a lower cost, reducing the time to market.

Their specific digital technology related services are:

- Design electronics products, circuitry, devices and wearables for a broad range of markets
- Develop predictive models for the design of new complex formulations and materials
- Design and simulate manufacturing processes using multi-scale modelling approaches
- Verify process models using digitally connected process analytical technologies (PAT)

The Medicines Manufacturing Innovation Centre (MMIC)

The Medicines Manufacturing Innovation Centre is a unique, state-of-the-art facility offering transformative solutions in small molecule and fine chemical manufacturing. The MMIC is a collaboration between CPI, University of Strathclyde, UKRI, Scottish Enterprise and founding industry partners, AstraZeneca and GSK.

The centre will ensure the UK is a technology and innovation leader in pharmaceutical manufacturing. The initial focus will be on technology translation for small molecule drug manufacture.

With a collaborative innovation culture and state-of the art facilities, the new facility will enable industry, academia, healthcare providers and regulators to work collaboratively to address challenges and maximise technology opportunities within the medicines supply chain.

2.5.2 Gap Analysis

The following table reviews the key existing organisations and bodies to demonstrate how the DPMC scope aligns with specific established services, is differentiated from the existing scope of digital manufacturing service support and illustrates the additionality that the DPMC services would provide.

Table 11: Gap analysis of existing organisations and the DPMC

Established service	Alignment with DPMC scope
Centre for Process Innovation (CPI)	<p>Centre for Process Innovation (CPI) is part of the High Value Manufacturing Catapult and lead innovation centre in process innovation.</p> <p>DPMC will be a strategic partnership with CPI through NMIS. The partnership will enable CPI to act as special advisors within specific DPMC R&D projects, pooling resources where relevant with CPI.</p> <p>DPMC singular focus is in the specialist area of digital process manufacturing. This area is currently not addressed within CPI or NMIS.</p>
Medicines Manufacturing Innovation Centre (MMIC)	<p>MMIC offers transformative solutions in small molecule and fine chemical manufacturing. MMIC's specialist focus is complimentary to DPMC and digital process manufacturing.</p> <p>DPMC will focus on companies within the specialist process manufacturing sector, as opposed to MMIC's specialist area in pharmaceutical / small molecule manufacturing. The two specialist areas are complimentary but very different in terms of applications, technologies and manufacturing processes.</p> <p>The DPMC focus is on the 7 key process manufacturing sectors and support for companies which are initiating their digital technology/Industry 4.0 journey. DPMC will provide access to specialist technologies, digital skills manufacturing processes and support collating system information that can be connected up and provide a useful industry dashboard.</p>
National Manufacturing Centre for Scotland (NMIS)	<p>NMIS is helping to make Scotland a global leader in advanced manufacturing. NMIS has identified a clear gap in the market related to digital manufacturing and the process industries.</p>

Established service	Alignment with DPMC scope
	Process industries have very specific requirement for digital manufacturing. Manufacture goods utilise flow and solid state chemistry supported by process control and documented evidence. This is radically different from digital engineering or other manufacturing activity.
NMIS Digital Factory	DPMC will provide NMIS with a stronger 'process manufacturing' focus and expertise to work with the processing sector, enabling accelerated digital uptake and new process technologies.
NMIS MSA	DPMC will seek to utilise MSA leadership role in manufacturing education working across industry together with links to University of Strathclyde and Ayrshire College.
SMAS Industry 4.0 Review	<p>DPMC as part of NMIS, would align with the SMAS via the One Scotland Partners, to focus on process manufacturing companies.</p> <p>DPMC would be signposted as a dedicated service to take the recommendations forward. DPMC would work with industry to explore and develop the digital technology roadmaps, demonstrating and trialling new digital process technology.</p>
Innovation Centre Programme CENSIS	<p>DPMC is complimentary and clearly differentiated from the existing Innovation Centre and will support the existing scope with applied digital process manufacturing capability:</p> <ul style="list-style-type: none"> • Centre for Sensor and Imaging Systems (CENSIS) • Construction Scotland Innovation Centre (CSIC) • Digital Health & care Innovation Centre (DHI) • Industrial Bio-Tech Innovation Centre (IBioIC) • Scottish Aquaculture Innovation Centre (SAIC) • Precision Medicine Innovation Centre (PMS-IC) • Oil and Gas innovation Centre (OGIC) • The Data Lab
Ayrshire College	DPMC compliments the College's digital skills and training programme with Ayrshire College working closely with NMIS/UoS to build inclusive regional access to digital skills and awareness of digital process technologies and innovation.
Digital technology consultants	DPMC offers an 'open access' facility supporting a diverse range of supply chain, specialist providers, training bodies and consultancy. DPMC will offer a turnkey approach to supporting companies with their digital technology adoption challenges.

2.6 Business needs

This section outlines the needs and drivers of the process manufacturing industry. To identify the needs of the sector, a number of reports were examined.

Two specific UK and Scottish government reports have been referenced, Made Smarter Review³ and SMAS Industry 4.0 Report⁴, the information included in this section focuses on report recommendations. Both Governments have recognised the importance of industry adopting Industry 4.0 practices, using digital technologies to improve production productivity and reduce costs. These reports were based on evidence gathered from across industry sectors, so not solely focusing on the processing manufacturing sector. However, combined with the outputs from additional studies undertaken as part of developing the OBC, parallels can be drawn and common challenges highlighted.

Further specific assessments were commissioned as part of developing the business case for the DPMC project, two specific assessments were commissioned:

- I3 Irvine Enterprise Area Research, commissioned by North Ayrshire Council and Scottish Enterprise, August 2019. This specifically considered the requirements of the i3 Irvine Enterprise Area Research as part of the UK's levelling-up initiative and considering appropriate use of the area with respect to Ayrshire Growth Deal opportunities.
- Demand assessment was commissioned to define the scope for the Digital Manufacturing & Demonstration Hub (DPMC). The assessment was commissioned by North Ayrshire Council, in July 2020. This assessment considered the demand from the process manufacturing industry for digital technology support delivered by an agnostic innovation centre.

Details relating to all of these reports are contained in the PBC. A summary of the business needs identified from these reports, is contained in the table below.

Table 12: Summary of business needs

Made Smarter Review	i3 Study
<ul style="list-style-type: none"> • Leadership within public bodies and within companies to support industry adopting digital technology, ensure the UK industry does not fall behind compared with other countries. • Support SMEs to adopt digital technology • Driving innovation in technology of products/services/companies. • Ensure the workforce are upskilled to fully utilise the new digital technologies. • Support the UK's vision to become a global industrial leader in creating, adopting and exporting advanced digital technologies. 	<ul style="list-style-type: none"> • Create a centre for digital development to encourage companies to locate in the area. • Make it attractive to industry by having expertise and equipment for demonstrations onsite. • Have a clear sectoral focus for manufacturing support and investment, include access point to Skills Academy. • Liaise and build strong interest from industry in the centre. • Create a modern manufacturing space. • Include units for businesses specialising in digital technologies and processing support.
Industry 4.0	DPMC Demand Assessment
<ul style="list-style-type: none"> • Developing 4.0 resources/roles and skills training plans. • Processes to be data-driven. • Develop data strategies, systems integration processes. 	<ul style="list-style-type: none"> • Industry view the DPMC as complementary with other Industry 4.0 related existing services. • The centre should connect with Scotland's/UK's innovation ecosystem as The Data Lab, the Precision Medicine

³ <https://www.gov.uk/government/publications/made-smarter-review>

⁴ <https://www.scottish-enterprise.com/media/3843/smas-bringing-scottish-manufacturing-to-the-4-compressed.pdf>

<ul style="list-style-type: none"> • Enable better utilisation of data collection, allow company to make data-driven/data-informed decisions. • Continuous improvement practices, relating to productivity, introduction of new products, performance, and asset strategy. • A work culture to promote data sharing and effective processes to analyse and share data. • Communicating benefits/opportunities as well as promoting awareness of digital technologies. • Creating business cases to justify investment in technologies. • Maximising the benefits from digital technology that companies have already invested in. • Leadership, to drive a culture ready for change. 	<p>Scotland Innovation Centre and components of the High Value Manufacturing Catapult.</p> <ul style="list-style-type: none"> • Assistance with technology introduction, overcome challenges of incompatibility between different pieces of kit, data standards, handling volumes of data. • Technology demonstrators that are sufficiently tailored to the subsectors of the process manufacturing sector. • Support developing investment cases / business cases for procuring new digital technology, specifically around ROI. Assistance to frame.
---	---

The following section takes these key business needs and explores how the DPMC would be aligned with supporting and overcoming the challenges described.

2.7 Potential Business Scope and Key Service Requirements

Considering the identified business needs from the targeted process manufacturing sector, the DPMC will include a varied scope to ensure it has the expertise and equipment to support industry to overcome the identified challenges.

2.7.1 Business scope

The DPMC will deliver a turnkey technology agnostic innovation centre over two phases, that can deliver support to the process manufacturing industry to enable companies to develop and integrate digital technology into production processes. The following headings summarise the business scope of the DPMC:

- Demonstration: able to see physical examples of digital technologies applied within the processing sector.
- Translation: helping companies to develop a robust requirements specification for their current and future digital needs.
- Strategy: DPMC will support companies to consider the whole view of digital technology landscape and how to create a long-term plan for adoption.
- Upskilling and knowledge: Phase 0 of DPMC has successfully delivered courses in demystifying industry 4.0 and creating courses to enable industry to learn about a broad range of digital technologies, and their application in the process manufacturing sector. The DPMC will continue to create courses suitable for different parts of companies, e.g. executives, management, and operations to support developing a digital culture within companies.

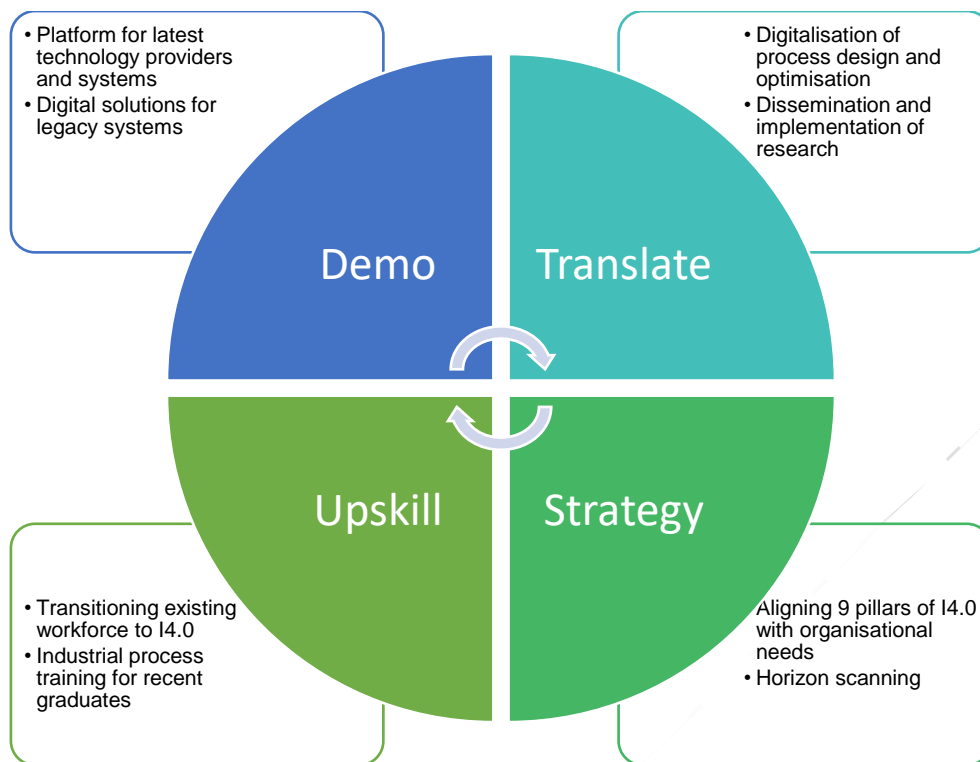


Figure 2: DPMC services

2.7.2 Components of the DPMC

These headings summarising the scope will be delivered by specific components within the DPMC:

- **Digital Demonstration Laboratory/Suite:** The DPMC will be focused around a physical centre offering practical demonstrations of Industry 4.0 technology. This will stimulate, encourage and support industry to adopt new and innovative practices in the application of digital strategies to their manufacturing operations by offering hands-on experience for companies. The demonstrations will include a range of opportunities for industry to gain access to examples of control systems, manufacturing execution systems, operational technologies, Augmented Reality, paperless systems, training, performance management, data visualisation techniques, etc. This experience, available in a controlled environment, aims to improve levels of confidence and demonstrates how digital can improve management decision-making, driving business performance and competitiveness. The physical facility, which will include a networking / training / meeting space, will serve as a focal point and networking hub for companies in the area.
- **Industry Engagement:** The DPMC will facilitate opportunities for companies to share with each other and spend time with potential industry partners, e.g. DSM and GSK, and see real-world application of digital strategies.
- **Leadership and Digital Strategy Development:** Key to the development and successful implementation of a digital strategy is building knowledge and confidence in leaders to drive the required culture change and organisational development. The DPMC will provide education, training and support as well as facilitating networking across local leadership teams.
- **Training for the Next Generation of Workers:** This will include a combination of inputs from Strathclyde University and Ayrshire College, influenced by a Skills Implementation Plan developed in partnership with Skills Development Scotland. This

could include everything from short-course provision to the creation of 2+2 degrees. This project could act as a “prototype” for the planned developments at the National Manufacturing Institute of Scotland, (NMIS) and their plans to provide a Digital Factory for 2025, a Collaboration Hub and a Manufacturing Skills Academy by 2021.

- **Innovation:** The partners in the DPMC will also facilitate access for companies to existing business support programmes, enterprise agencies and through the University of Strathclyde, into NMIS and the Medicines Manufacturing Innovation Centre (MMIC). There is also scope for linking with CENSIS for sensor technology development and IBiolC and CMAC for novel manufacturing processes. Partnership with Strathclyde University will facilitate access to university expertise and stimulate collaboration between companies and the academic research base.

2.7.3 NMIS DPMC Services

Within the key service requirements outlined, the DPMC would be structure services under the following headings:

Commercial projects: 1-to-1 contracts between industry and DPMC.

Collaboratively funded projects: companies that require funding support to engage with DPMC resources. Sources of funding include: Innovate UK, EPSRC etc.

Membership opportunities: NMIS membership with specific engagement with DPMC services/research. NMIS member companies with DPMC interests will be to influence the focus of the DPMC Research Programme.

- Tier 1 membership £100K (cash or in-kind) per annum
- Tier 2 membership £20K (cash or in-kind) per annum

Training and skills: training offered will be an extension of NMIS MSA activity but with tailored courses for the process manufacturing sector. The initial focus of training will be demystifying digital technologies, from there additional courses will be developed based on the collective interests of the sector.

2.7.4 Core coverage and services

The services outlined below have been aligned with key outputs from the demand assessment in section 2.6 Business needs.

- Hands-on demonstrations relevant to your processes in: robotics, systems integration, analytics, AI, AR/VR, simulation, using the cloud, SAAS, PAAS, cyber security, 5G, Industrial Internet of Things. Enabling industry to have access to the latest digital technology equipment for industry to explore and try onsite.
- Ability to use process materials such as - powders, liquids, metals, chemicals, plastics, ingredients, sheet material
- Controlled environment proof of concept trials of digital technology products in industry settings (within the lab, or within small scale production set-up)
- Develop and facilitate collaborative projects with multiple companies
- Technology agnostic advice on investigating potential technology suppliers.
- Cost modelling and ROI analysis.
- Expert support with implementation and integration of digital technologies in an industry setting.
- Access to research programmes that are exploring the next advancements and applications of digital technologies.
- Developing digital roadmaps and strategies for industry.

- Training courses to upskill industry staff, including tailored courses for Executives, Managers and Operators.
- Apprenticeships, training the next generation with advanced digital technology apprenticeships.

2.8 Main Benefits Criteria

The table below sets out the main outcomes and benefits associated with the implementation of the project scope in relation to the business needs.

Table 13: Summary of benefits aligned with investment objectives

Ref	DPMC Investment Objective	Benefits for Stakeholder Groups	Measurement
IO-01	Establish the Digital Process Manufacturing Centre's facility infrastructure and ensure operational readiness: Create a nationally significant digital process manufacturing centre at i3, Irvine to support the process manufacturing sector and the restructure of the Ayrshire economy, building on North Ayrshire's sectoral strengths in life sciences, manufacturing and process engineering. The facility will be equipped with staff and equipment to demonstrate, develop and deliver digital technology to support the processing sector's digital challenges.	<ul style="list-style-type: none"> • Improved access to specialist support for processing sector businesses seeking to improve digital skills • Increased performance, productivity, growth rates, competitiveness and efficiency within processing sector businesses through improved digital skills. 	<ul style="list-style-type: none"> • No. of jobs created • Amount of business and R&D space created • No. and types of businesses assisted including SMEs
IO-02	Create digital process manufacturing partnerships, and establish new collaborations and supply chains: Establish a digital technology community that facilitates new supply chains, connections across the processing sector's sub-sectors, and enables collaborative research, development projects with industry processing sector, academia, and government and attracts inward investment.	<ul style="list-style-type: none"> • New training, employment and business development opportunities for local communities through University, College & NMIS presence at i3. • Increased attractiveness of Scotland and Ayrshire to inward investment companies through availability of skilled workforce and supply chains. 	<ul style="list-style-type: none"> • No. of organisations & companies participating in DPMC including SMEs • Amount of revenue funding leveraged.
IO-03	Develop a national digital process manufacturing research agenda: Develop and deliver a pipeline of digital technology research and development projects for industry within the process manufacturing sector at i3 to help industry benefit from understanding the cost and efficiency opportunities of applying digital technology to their processing production facilities, enabling them to explore adopting technology, and upskilling their workforce to utilise the digital technology.	<ul style="list-style-type: none"> • Increased engagement in R&D and spin off opportunities for industry and academia through creation of cluster area at i3. • New collaboration opportunities between industry, academia and other innovation centres e.g. IBIOIC, CMAC, and CENSIS. • Increased opportunities for local schools, colleges and training providers to become involved in R&D projects. • Processing sector businesses will benefit through reducing their 	<ul style="list-style-type: none"> • No. of companies adopting new digital processes • No. of R&D projects taking place.

Ref	DPMC Investment Objective	Benefits for Stakeholder Groups	Measurement
		carbon footprint by adopting digital technologies	
IO-04	<p>Build a digital manufacturing training and skills programme tailored to the process manufacturing sector, that provides skilled employment and training opportunities for local communities, schools and colleges:</p> <p>Create a training programme that focuses on all levels of management within industry organisations so that digital technology training and application in the processing sector can be tailored to specific industry role groups e.g. Executive, Management, Operations. Create a further training programme to support the inclusion of local communities and disadvantaged groups in the Centre and skills and training opportunities linked to local education providers.</p>	<ul style="list-style-type: none"> • Increased opportunities for school and college students to access work experience and training programmes linked to Industry 4.0 agenda. • Increased capabilities and skills of manufacturing workforce base in Ayrshire - halting its decline. • Improvements in knowledge and confidence of local industry leaders regarding digital skills and benefits. • Improving existing SME skills and stimulating creating of additional SMEs through availability of specialist facility. 	<ul style="list-style-type: none"> • No. of local people obtaining skilled employment & training opportunities • No. of local people attending skills & training opportunities • No. of school & college students participating in work experience / training programmes • No. of people within disadvantaged groups participating in the DPMC project • No. of study visits by schools, colleges and training providers.

2.9 Main risks

The main business and service risks associated with the potential scope for Phase 1 and 2 of this project are shown in the table below together with their counter measures. A number of these risks are highlighted in the most recent Ayrshire Growth Deal Implementation Plan 2022 and these have been highlighted in the Risk Ref column as (IP). The risk register is included in Appendix E. In summary, the main risks related to this project are considered to be:

- Failure to obtain approval for the project's Business Case.
- Failure to commit to the project by all project partners.
- Similar projects are developed that reduce the requirement for the project's services
- All sources of capital and revenue funding for the project are insufficient to deliver and operate the project.
- Delays to the project timescales caused by issues such as partner approvals, land acquisition, protected species, statutory consents, procurement or construction.
- The project fails to attract enough of its target audience to generate sufficient income.

A key project mitigation is the delivery of Phase 1 of the project to test the feasibility and sustainability of the Phase 2 permanent facility. However, it is worth noting that Phase 1 also has a number of specific risks that are of concern to the partners. In particular, these include significant delays to the approvals process for the FBC which has multiple approval / endorsement stages and the award of the refurbishment tender which if delayed, Scottish Enterprise has flagged up could jeopardise the award of their funding for the refurbishment works. In this respect, an additional risk has been added (R37) to highlight this.

Table 13: Project Risk Register

DPMC General Risk Register			
Risk Ref	Risk Type	Risk Description	Counter Measure
R1 (IP)	Socio-economic	Impact of Covid pandemic on the project, including delay to project development and reduction in demand for facility.	Moderately low risk of impact predicted due to Covid. Economic research emerging indicates appetite to accelerate key infrastructure projects to support recovery and renewal. Reliance on technology leading to businesses reassessing their needs for digital. Work streams have been activated to provide regional support.
R2 (IP)	Business	Not all partners can commit to project.	Steering Group established with Partners. MoU Signed August 2021. Collaboration Agreement signed March 2022 for Phase 1 with agreed partner roles and responsibilities. Development of pilot to test project feasibility Scope out other potential partnerships.
R3 (IP)	Political	Detailed Business Case fails	OBC developed in accordance with Green Book. Strong supporting evidence provided for demand. Govts have seen first draft. PBC now submitted. Identify project costs & confirm funding sources.
R4 (IP)	Political	Related i3 Flexible Space Business Case fails & overall impact of i3 AGD programme is limited.	Project has strong evidence base Commissioned masterplan will provide overall vision. Flex Space OBC approved June 2021. Both projects are not dependent on each.
R5	Business / Timescales	Potential delays in Full Business Case approval	Seek clarity on FBC timescales from AGD PMO. Include FBC preparation in project programme. Develop FBC in accordance with Green Book Partner/Stakeholder Risk Assessment Early Market Input/ Partner & Commercial Input Review CAPEX and OPEX costs Review Governance Arrangements
R6	Business	Service is provided by another facility reducing / negating demand for project.	Establishment of virtual and pilot phases to provide early services. Phase 0 established. Ensure OBC includes overview of other existing / proposed centres and articulates differences and complementarity.
R7	Business	Pilot demonstrates that main project is not commercially viable.	Partners agree extent of project development that's at risk. Partners instruct pilot monitoring and evaluation to inform commitment to Phase 2 Partners agree to legally commit to project prior to legal commitments on project contracts.
R8 (IP)	Financial	Design / technical studies result in additional costs beyond contingencies and optimism bias.	Develop & validate project brief & specification. Benchmark costs. Ensure early infrastructure costs tested and informed by SI work. Provide Green Book compliant Optimism Bias allowances. Provide for contingency & inflation.

DPMC General Risk Register			
Risk Ref	Risk Type	Risk Description	Counter Measure
R9	Regulatory	Compliance with State Aid / Subsidy regulations	Engage with State Aid Unit at appropriate stage. Partners to identify specific Subsidy Risks within the project Include as task within programme.
R10	Timescales / Business / Professional	Delays caused by resource management / project management issues.	Internal AGD team created. Regular review of project resource/skills needs. Specialist support provided by partner agencies. Ensure external teams have robust procedures in place for replacing resource if required.
R11	Contractual/ Professional	Change management issues	Clear and agreed procedures to be set in place for internal change management and for external processes with design team and contractor.
R12	Timescales / Programme	Delays to overall project programme and key milestones.	Prepare a detailed project programme with considered time allowances. Allow for regular reviews.
R13	Timescales / Regulatory	Delays caused by land acquisition / lease agreement processes.	Early engagement with land/building owners. Ensure programme allows for third party approvals
R14	Timescales / Environment	Delays caused by environmental considerations.	Assess Protected Species/Habitat risk at early stage Review & commission all site studies required. Ensure seasonal work/study requirements accounted for in programme.
R15	Timescales / Environment	Delays caused by site investigation work and findings	Instruct SI work at early stage of project.
R16	Timescales / Regulatory	Delays caused by objections.	Advance programme of Local & Stakeholder Engagement
R17 (IP)	Timescales / Regulatory	Delays caused by statutory consent processes.	Early engagement with planning and building standards to agree timetable for award and identify potential issues
R18	Regulatory	Planning / building warrants not granted.	LDP supports development of site for this use. Ensure local members and partner boards well briefed and updated on project. Hold pre-app discussion with NAC Planning Assess Protected Species/Habitat risk and other relevant constraints Formally agree programme for consents Advance programme of local & stakeholder Engagement.
R19 (IP)	Timescales / Procurement	Delays cause by procurement process.	Seek early agreement on appropriate procurement routes and early notification of contract opportunities. Partners to reach agreement on who procures what project elements.
R20	Timescales / Contractual	Delays caused by contractor on site.	Identify appropriate construction contract to remove/ reduce risk of cost over-run. Appoint experienced contract Project Manager to oversee delivery of contract as client representative.

DPMC General Risk Register			
Risk Ref	Risk Type	Risk Description	Counter Measure
R21	Financial	Slippage / delay in the programme incurs additional costs.	Instruct appointed project team to address this within Risk Register. Select procurement route to ensure contract type has less risk for client.
R22	Financial	Unforeseen project complexities that require additional funding.	Provide for contingency. Provide Green Book compliant Optimism Bias allowances. Similar projects have been delivered elsewhere
R23 (IP)	Contractual / Political	Failure to deliver community benefits – training, employment	Incorporate appropriate community benefits into contract terms and resource appropriately.
R24 (IP)	Operational	The project fails to attract enough of its target audience	Recent research has established demand. Continue to review demand and business needs with Partners. Prepare project marketing particulars. Involve relevant business engagement partners. Appoint BD Manager. Ensure flexible design of space and building to ensure its robust over time. Continue to establish strategic relationship with national sector.
R25 (IP)	Financial / Operational	The project fails to generate sufficient income that was forecast	Comparator analysis to be undertaken to identify appropriate charging mechanisms.
R26	Operational	Operational issues with the new building or equipment	Programme will allow for a testing phase for operations within building and for equipment. Instruct the preparation of an Operational Plan. Obtain maintenance contracts for equipment. Recruit appropriately qualified staff to operate equipment.
R27 (IP)	Outputs & Outcomes	Failure to deliver anticipated outputs and outcomes.	Ensure BC addresses sensitivity of outcomes. Prepare a clear Evaluation & Monitoring Framework
R28	External	BREXIT has a detrimental impact on the project, including the overall cost of the project and potential delays eg cost of and timescale for delivery of specific materials.	Analyse other tender information and issues experienced by others and incorporate allowances within risk register, programme and budget. Review likely impact.
R29	Outputs & Outcomes	The project fails to achieve more inclusive growth and/or reduce poverty by increasing the income of people in deprived areas or protected characteristic groups	Prepare overall strategy for achieving inclusive growth.
R30	Reputational	Phase 0 is not successful	Phase 0 launched. Demand Survey identified interest

DPMC General Risk Register			
Risk Ref	Risk Type	Risk Description	Counter Measure
R31	Outputs and Outcomes	Phase 1 cannot be located within the existing business premises	Business has now purchase building and land. UoS to agree lease.
R32	Financial	Lack of funding to operate Phase 1	Capital costs mostly available. Revenue costs part available to commence Phase 1.
R33(IP)	Financial	Cost over-runs to Phase 1	Outline costs provided from consultant for refurbishment. Estimated costs provided for equipment
R34	Operational	Lack of interest in staff posts for Phase 1	Posts to be widely promoted
R35	Operational/Reputational	Closure of Phase 1 and no progress to Phase 2	Ongoing monitoring and promotion of phase 1 facility
R36	Financial	Insufficient funding secured to progress to Phase 2	Partners actively seeking funding from Community Renewal Fund, North Ayrshire Ventures Trust, Nuclear Decommissioning Authority.
R37	Financial	Project delays threaten funding awards.	Keep funders updated on progress and flag any issues to them as early as possible.

2.10 Constraints

The partners have made good progress with the development of Phase 1 of the project, which has very limited constraints in comparison to Phase 2 of the project which is subject to a number of constraints. COVID is having an impact on the supply and lead in times for materials which has resulted in the programme for the refurbishment works being estimated to take longer than prior to COVID.

2.11 Dependencies

Phase 1 of the project is subject to the following dependencies that will be carefully monitored and managed throughout this phase of the project:

- PBC Approval by Government
- FBC endorsement by Government
- Lease agreement between UoS and Booth Welsh
- Licence agreement between UoS and NAC
- Award of contracts by NAC and UoS following Joint Committee approval
- Award of grant claim for refurbishment by Scottish Enterprise.
- Recruitment of staff for the facility
- Demand from businesses for the services
- Businesses taking up membership of the facility
- Availability of a skilled workforce to take up the job opportunities created by the Centre;
- Input from local schools and colleges for work placements and training outcomes;

3. Economic Case

3.1 Introduction

In accordance with the Capital Investment Manual and requirements of HM Treasury's Green Book (A Guide to Investment Appraisal in the Public Sector), this section of the FBC documents the procurement process and provides evidence to show that we have selected the most economically advantageous offer, which best meets our service needs and optimises value for money. This offer is in relation to part of the works to create Phase 1 of the DPMC project and further procurement processes will follow in relation to the equipment and staff resources required for Phase 1. **The level of information provided regarding the procurement process has been informed by discussions with NAC's Corporate Procurement Unit and is in accordance with the Council's Standing Order.** The Council's Corporate Procurement Unit has advised that details of the bidders, their final costs and the evaluation scores, must be kept confidential prior to the award of the tender, as this would be a breach of the Council's Standing Orders. Details of the contract award will be published on Public Contracts Scotland and North Ayrshire Council's contract register when the successful bidder is awarded.

3.2 Critical success factors

The critical success factors (CSF) for the overall project and set out within the OBC and subsequent PBC were as follows:

CSF01: MARKET CAPACITY/DEMAND - Increased productivity through innovation of digital technology

Successfully integrating digital technology into the processing sector has the opportunity to provide up to 30% improvement in productivity (e.g. from reduced downtime in machines, increased productivity from production planning etc.).

The DPMC will provide a physical space for process manufacturing companies to see demonstrations of innovative digital technology to illustrate the art of the possible, and to offer a range of services to enable companies to explore opportunities to increase their productivity, through research and development.

CSF02: BENEFITS OPTIMISATION - Stimulate the process manufacturing sector to adopt digital technology to increase competitiveness and help attract foreign and inward investment and reduce carbon footprint.

The DPMC will encourage companies to invest in digital technology, by providing access to equipment so that companies can 'try before they buy' through research and development projects led by the DPMC. The DPMC will also undertake research with technology suppliers and industry to develop next generation digital technology for the process manufacturing sector.

CSF03: BUSINESS NEEDS / JOB CREATION - Catalyse job creation and strengthen supply chain links for the processing sector through digital technology

The DPMC will promote job creation through helping companies operate more productively with the aim of increasing their revenue streams and increasing their workforce. New supply

chains will be facilitated as a result of the digital technology community that is developed, bringing together process manufacturing companies and technology suppliers alongside academics from NMIS and the broader NMIS network.

CSF04: STRATEGIC FIT - Skills and workforce development for the process manufacturing sector

The DPMC will deliver tailored digital technology training courses for the process manufacturing sector, working with the sector to understand what training is most needed and would most benefit industry.

CSF05: BUSINESS NEEDS - Maintain and increase digital manufacturing capabilities in North Ayrshire without displacing or removing jobs/companies.

The DPMC will support the North Ayrshire area and consider using the centre and research and development activity to attract companies to co-locate in the i3 campus.

CSF06: POTENTIAL AFFORDABILITY – Ensure the project is affordable using AGD sources matched against other sources.

Considering partnership that can bring sources of funds to the DPMC project to improve the affordability of the concept.

CSF07: POTENTIAL ACHIEVABILITY – Ensure the project is deliverable by NMIS / University of Strathclyde in partnership with North Ayrshire Council and CPI and with the involvement of Ayrshire College.

Considering the partnership arrangements to provide the best possibility of achieving setting up and delivering the DPMC.

Table 14: Critical Success Factors summary table

Ref	Critical Success Factor	Measurable
CSF01	MARKET CAPACITY/DEMAND Increased productivity through innovation of digital technology.	<ul style="list-style-type: none"> Number of companies that engage with the DPMC. Number of projects generated from engagement with the DPMC. Measurable increase in company productivity at conclusion of project delivered by DPMC (this will require establishing methodologies for measuring productivity pre and post project).
CSF02	BENEFITS OPTIMISATION Stimulate the process manufacturing sector to adopt digital technology to increase competitiveness and help attract foreign and inward investment and reduce carbon footprints.	<p>Compile data in the following areas from companies pre and post engagement with the DPMC:</p> <ul style="list-style-type: none"> What is their current level of investment in digital technology, and compare with post engagement / project completion. Market share or exports in services / products, or profitability. Amount of new businesses created or relocated through inward investment. Amount of net additional GVA benefits for businesses that are created by the project

Ref	Critical Success Factor	Measurable
		<ul style="list-style-type: none"> Number of processing sector businesses reducing their carbon footprint by adopting digital technologies Number of new collaboration opportunities between industry, academia and other innovation centres e.g. IBIOIC, CMAC, CENSIS.
CSF03	<p>BUSINESS NEEDS / JOB CREATION</p> <p>Catalyse job creation and strengthen supply chain links for the processing sector through digital technology.</p>	<ul style="list-style-type: none"> How many jobs were created How many new jobs relating to digital technology / skills were created Geographic location of jobs created Increased sales within the local supply chain, with customers who worked with DPMC Number of new products / services that DPMC customers invest in after engaging with the DPMC. Number of new companies created as a result of engaging with DPMC.
CSF04	<p>STRATEGIC FIT</p> <p>Skills and workforce development for the process manufacturing sector.</p>	<ul style="list-style-type: none"> No. of companies/people trained on courses developed by the DPMC with support from NMIS Manufacturing Skills Academy. Pre and post engagement with DPMC understanding companies confidence % to create their own training materials. Increase in industry salaries % from upskilling in digital technology. Number of people reskill and transfer into the processing sector through digital training offered by the hub. Number of local people obtaining skilled employment opportunities. Number of new training, employment and business development opportunities for local communities through University, College & NMIS presence at i3. Number of UK and national strategies that the project supports.
CSF05	<p>BUSINESS NEEDS</p> <p>Maintain and increase digital manufacturing capabilities in North Ayrshire without displacing or removing jobs/companies.</p>	<ul style="list-style-type: none"> How many process manufacturing related and service based companies are located in North Ayrshire, pre the establishment of the DPMC and after 3, 6, 9 years of being operational from the launch of Phase 1. How likely companies are to move to the North Ayrshire area?
CSF06	<p>POTENTIAL AFFORDABILITY</p> <p>The project is affordable with AGD sources matched against other sources.</p>	<ul style="list-style-type: none"> Amount of capital matched funding that is levered Amount of private sector investment that is levered Amount of revenue income that is generated
CSF07	<p>POTENTIAL ACHIEVABILITY</p>	<ul style="list-style-type: none"> Approval of business case and key milestones by all partners to enable delivery of project.

Ref	Critical Success Factor	Measurable
	The project is deliverable by NMIS / University of Strathclyde in partnership with North Ayrshire Council and CPI and involvement of Ayrshire College.	<ul style="list-style-type: none"> Commitment by all partners to funding, construction and operation of facility.

3.3 Long-list options

The long list evaluated within the Programme Business Case was as follows:

- Option 1 – Do Nothing / baseline;
- Option 2 – NMIS undertake the DPMC project with a reduced scope;
- Option 3 – NMIS own/operate DPMC, located in Irvine;
- Option 4 – Ayrshire College own/operate DPMC with a reduced scope;
- Option 5 – North Ayrshire Council own DPMC and tender for an operator;
- Option 6 – Delivery through a trade association;
- Option 7 – CPI own/operate DPMC, located in Irvine;
- Option 8 – Locate DPMC at another location; and
- Option 9 – Deliver DPMC Phase 1 only.

These options included other partners or stakeholders owning the DPMC instead of NMIS, changing the method of delivery services e.g. through a trade association model, and considering other locations and impact in meeting the criteria. The options were evaluated in accordance with how well each option met the investment objectives, critical success factors, and other specified criteria, namely the impact for industry, the cost, risk and time taken to deliver the option, the jobs created and whether the option would be easy to secure funding. The following ratings were applied to the options with the potential for a maximum score of 51:

- 0: The option does not meet the criteria;
- 2: The option partially meets the criteria; and
- 3: The option satisfies the criteria.

Option 1 – Do Nothing, scored 0 with no investment objectives or critical success factors achieved.

Option 2 – NMIS undertaking the DPMC at a reduced scope, scored 39 and was carried forward to the shortlist as the preferred option. This option satisfied all but one of the investment objectives and partially met the investment objective of establishing the facility, as it would be of a reduced scope within an existing NMIS facility. Whilst this option satisfied four out of seven critical success factors, it would fail to increase capabilities in Ayrshire, as the project would not be located there, it would not ensure that the project is affordable using AGD sources as the AGD fund would not apply and as it would not be delivered in partnership with North Ayrshire Council and Ayrshire College. This option also mainly satisfied the other criteria apart from only partially in relation to the impact for industry and jobs created.

Option 3 – NMIS own/operate DPMC, located in Irvine, scored 47 and was carried forward to the shortlist as the preferred option. This option satisfied all of the investment objectives and nearly all of the critical success factors, apart from ensuring the project is affordable matching AGD sources with other sources, which it partially met due to the challenge to find additional sources of funds.

Option 4 – Ayrshire College own/operate DPMC with a reduced scope, scored 28 and was discounted as an option, as the College has insufficient experience to operate such a centre. Whilst this option would satisfy the investment objective of building a training and skills programme, it only partially meets the objective of establishing collaborations and supply chains and would fail to establish the DPMC with operational readiness and a national research agenda.

Option 5 – North Ayrshire Council own DPMC and tender for an operator, scored 25 and was discounted as an option as NAC has insufficient experience to operate an innovation centre and would fail or partially satisfy the criteria, objectives and critical success factors.

Option 6 – Delivery through a trade association, scored 17 and was discounted as an option, on the basis that it would not drive innovation or research or create the required positive impact for industry. Whilst there was less doubt around risk and cost and collaboration and supply chains, this option failed or partially satisfied the other criteria, success factors and objectives.

Option 7 – CPI own/operate DPMC, located in Irvine, scored 38 and was discounted as an option as it is not a strategic propriety for CPI to lead on the development of the DPMC but will be a strategic partner. In this respect the option failed on the length of time and risk to deliver and the combination of partners.

Option 8 – Locate DPMC at another location, scored 35 and was discounted as an option. Whilst this option would satisfy all of the investment objectives, and a number of the critical success factors it would not be in line with key partners strategic objectives to establish a centre in North Ayrshire. Whilst it would satisfy the impact for industry and jobs created it there would be challenges around funding as the AGD could not support it.

Option 9 – Deliver DPMC Phase 1 only, scored 47 and was carried forward to the shortlist on the basis that this option satisfied all of the critical success factors and other criteria and partially met all of the criteria for the investment objectives, as it would only deliver Phase 1.

Within the tables the following ratings have been applied:




	0	The option does not meet the criteria
	2	The option partially meets the criteria
	3	The option satisfies the criteria

Table 2: Long-list options appraisal 1-4

	Option #	Option 1: Do nothing / baseline	Option 2: NMIS undertake a reduced scope	Option 3: NMIS own DPMC, locate in Irvine	Option 4: Ayrshire College own the DPMC with a reduced scope
Ref	Investment Objectives (IO)				
IO1	Establish the Digital Process Manufacturing Centre's facility infrastructure and ensure operational readiness	0	2	3	0
IO2	Create digital process manufacturing partnerships, and establish new collaborations and supply chains	0	3	3	2
IO3	Develop a national digital process manufacturing research agenda	0	3	3	0
IO4	Build a digital manufacturing training and skills programme tailored to the process manufacturing sector	0	3	3	3
	Critical Success Factors (CSF)				
CSF01	Increased productivity through innovation of digital technology	0	3	3	2
CSF02	Stimulate the process manufacturing sector to adopt digital technology to increase competitiveness and help attract foreign and inward investment and reduce carbon footprint.	0	3	3	2
CSF03	Catalyse job creation and strengthen supply chain links for the processing sector through digital technology	0	3	3	3
CSF04	Skills and workforce development for the process manufacturing sector	0	3	3	2
CSF05	Maintain and increase digital manufacturing capabilities in North Ayrshire without displacing or removing jobs/companies	0	0	3	3
CSF06	Ensure the project is affordable using AGD sources matched against other sources.	0	0	2	3
CSF07	Ensure the project is deliverable by NMIS / University of Strathclyde in partnership with North Ayrshire Council and Ayrshire College.	0	0	3	0
	Other criteria (OC)				
OC1	Impact for industry	0	2	3	2
OC2	Cost to deliver option	0	3	2	2
OC3	Risk to deliver option	0	3	2	2
OC4	Length of time to deliver option	0	3	3	2
OC5	Jobs created	0	2	3	0
OC6	How easy to secure funding (Initially and on-going)	0	3	2	0
	Reasons for rejection	Does not meet criteria.	Carry forward.	Preferred option.	AC has insufficient experience to operate an innovation centre.
	Summary	0	39	47	28
	Outcome	Discounted option.	Carry forward.	Preferred option.	Discounted option.

Table3: Long-list options appraisal 5-9

	Option #	Option 5: NAC own DPMC, tender for operator	Option 6: Trade Association	Option 7: CPI own DPMC, locate in Irvine	Option 8: Other locations for NMIS owned DPMC, e.g.	Option 9: DPMC phase 1 only
Ref	Investment Objectives (IO)					
IO1	Establish the Digital Process Manufacturing Centre's facility infrastructure and ensure operational readiness	3	0	3	3	2
IO2	Create digital process manufacturing partnerships, and establish new collaborations and supply chains	3	3	2	3	2
IO3	Develop a national digital process manufacturing research agenda	0	0	2	3	2
IO4	Build a digital manufacturing training and skills programme tailored to the process manufacturing sector	2	0	3	3	2
	Critical Success Factors (CSF)					
CSF01	Increased productivity through innovation of digital technology	0	2	3	3	3
CSF02	Stimulate the process manufacturing sector to adopt digital technology to increase competitiveness and help attract attract foreign and inward investment and reduce carbon footprint.	0	0	3	3	3
CSF03	Catalyse job creation and strengthen supply chain links for the processing sector through digital technology	2	2	3	3	3
CSF04	Skills and workforce development for the process manufacturing sector	2	0	3	3	3
CSF05	Maintain and increase digital manufacturing capabilities in North Ayrshire without displacing or removing jobs/companies	3	0	3	0	3
CSF06	Ensure the project is affordable using AGD sources matched against other sources.	2	0	3	0	3
CSF07	Ensure the project is deliverable by NMIS / University of Strathclyde in partnership with North Ayrshire Council and Ayrshire College.	0	0	0	0	3
	Other criteria (OC)					
OC1	Impact for industry	0	0	3	3	3
OC2	Cost to deliver option	2	3	2	2	3
OC3	Risk to deliver option	2	3	0	0	3
OC4	Length of time to deliver option	2	2	0	3	3
OC5	Jobs created	2	2	3	3	3
OC6	How easy to secure funding (Initially and on-going)	0	0	2	0	3
	Reasons for rejection	NAC has insufficient experience to operate an innovation centre.	Will not drive innovation or research, will not create impact for industry.	Not a strategic priority for CPI to lead the development of the DPMC, instead positioned as a strategic partner with NMIS	Not in line with key partners strategic priorities to establish a North Ayrshire located innovation centre.	Carry forward.
	Summary	25	17	38	35	47
	Outcome	Discounted option.	Discounted option.	Discounted option.	Discounted option.	Carry forward.

3.3.1 Preferred way forward

Option 3 - NMIS operate DPMC and locate in Irvine was identified as the preferred way forward at OBC and PBC stages.

3.4 Short-listed options

The short-listed options shown within the PBC were as follows, including the delivery of Phase 1 only:

Option 2: NMIS undertake a reduced scope

NMIS recruit additional staff, with processing sector experience/skills and invest in equipment that aligned with processing sector / sub sectors, then utilise current and planned building and facilities to locate new staff and equipment.

Option 3: DPMC owned by NMIS as Specialist Technology Centre, locate in Irvine

NMIS own the DPMC, the DPMC will be a NMIS specialist technology centre, located in Irvine, North Ayrshire. NMIS will rent building from North Ayrshire Council. The NMIS DPMC would have a strategic partnership with CPI/MMIC.

Option 9: DPMC phase 1 only

Undertake the DPMC as outlined in option 3, but only complete Phase 1, do not initiate Phase 2.

Preferred option

The preferred and agreed option at PBC stage was Option 3 – an NMIS specialist centre located in Irvine. However, given the level of investment required for Option 3, the partners agreed that a Phase 1 pilot should be accelerated to test the feasibility of the project. The pilot has been identified by the partners as a risk mitigation to investment in a permanent and larger scale Phase 2. Phase 1 has therefore been developed including procurement plans for refurbishment works, equipment and recruitment. The procurement of refurbishment works for Phase 1 is the solution that the partners are procuring at this stage. Additional procurement processes will take place for Phase 1 and are explained within the Management Case.

3.5 The procurement process

The Council has used Public Contracts Scotland Quick Quote process for the refurbishment works and assessed the availability and capacity for local companies based in North Ayrshire to tender for the works, in accordance with the Council's Community Wealth Building Strategy. A number of other companies within the wider Ayrshire area and regional area beyond were also approached. The tender was published on 3 May 2022 and returns received on 01 June 2022, following a requested extension of a week to the tender period. The Council received nine bids that were initially assessed on a pass / fail question related to previous experience, following which eight bids progressed to the quality assessment stage and six bids progressed to the commercial stage. As mentioned in 3.1, the Council's Corporate Procurement Unit has advised that details of the bidders, their final costs and the evaluation scores, must be kept confidential prior to the award of the tender, as this would be a breach of the Council's Standing Orders. Details of the contract award will be published on Public Contracts Scotland and North Ayrshire Council's contract register when the successful bidder is awarded.

3.5.1 Long list criteria

The long list was comprised of nine bidders who submitted bids in response to a quick quote published through the Public Contracts Scotland portal.

3.5.2 Long list

The nine bids received were assessed on their response to a pass/fail question regarding previous experience. As a result of this assessment, eight bids were then assessed in terms of the quality evaluation.

3.5.3 Short list criteria

The quality evaluation stage accounted for 40% of the score and was based on questions including methodology and expertise.

Following the completion of the quality evaluation, six bidders proceeded to the commercial evaluation stage which accounted for 60% of the score. The commercial evaluation involved a review of the six bids by cost consultants which included an arithmetic check, rate analysis and a review of tender qualifications, with any clarifications sought from bidders where necessary.

3.5.4 Short list

Following the commercial evaluation there were five bidders who were assessed and scored and ranked according to the quality and cost assessments. All bids were within the budget with, a preferred bidder selected that is more than 30% under the available budget.

3.6 Economic appraisal

3.6.1 Introduction

This section provides an overview of the costs and benefits associated with DPMC generally and Phase 1 of the project, including the focus of this FBC – the refurbishment contract.

3.6.2 Estimating benefits

Methodology

The Programme Business Case (PBC) stated that the benefits associated with each option for the main DPMC project were identified during discussions between Stantec and the project partners. In December 2020, the project partners appointed Stantec UK Ltd to develop an economic impact model for assessing the economic benefits associated with each short-listed option. The key findings from this analysis were presented in the PBC, while details of the key underlying assumptions that informed this analysis are presented in Appendix I (provided separately). Since then, a Benefits Realisation Plan has been developed to add to this work which is detailed in the paragraphs below.

Description, sources and assumptions

The identified benefits of the main Phase 2 DPMC project fell into the following primary categories:

- **Quantitative – cash releasing benefits:** financial benefits that the project will help generate for project partners. These include direct benefits (such as rental income and research income), which have been netted off from total costs in the benefit cost ratio (BCR) calculation, and indirect benefits (such as business rate receipts and Scottish Income Tax receipts), which have not been deducted⁵.
- **Quantitative – non-cash releasing benefits:** societal benefits which can be monetised and expressed in Gross Value Added (GVA) terms. These are captured as benefits in the BCR calculation
- **Qualitative – non-cash releasing benefits:** these are not accounted for in the BCR calculation but are assessed separately in section 3.6.

⁵ It was not considered appropriate to deduct these both due to issues of attribution (e.g. how to separate out the proportion of these receipts that were attributable to this intervention, and those that were attributable to other forms of support that the associated businesses may have received); and to issues of additionality (e.g. how to account for the proportion of business rate receipts that would be a net benefit to the Council, and the proportion that would go towards the additional service delivery costs that the Council would incur as a result of having more businesses operating at the site).

Table 16: Main benefits

Type	Direct to Project Partners	Indirect to Project Partners	To society
Quantitative – cash releasing (accounted for in 'estimating costs' section)	Rental income Research income	Business rate receipts Scottish Income Tax	-
Quantitative – non-cash releasing (accounted for in this section)	-	-	Accelerated/enabled construction activity Accelerated/enabled operational activity Productivity gains to existing businesses
Qualitative - non-quantifiable (accounted for in section 3.6)	Strengthening partnerships Contributing to the national research agenda	-	Strengthening supply chains Developing the skills base Carbon efficiency savings

Source: Stantec, North Ayrshire Council, NMIS, 2021

The estimated benefits arising from Phase 1 of the project and in relation to this procurement exercise for refurbishment works, relate mostly to the potential for quantitative and qualitative benefits to society through the appointment of local contractors and enabled construction activity with the potential to support training places, maintain jobs and support SMEs through the contract.

A Benefits Realisation Plan for the Ayrshire Growth Deal has been developed and has identified the outcomes, outputs and impacts below that could be measured for the overall DPMC project. These are listed below and it's anticipated that Phase 1 will provide the benefits that are listed at a smaller scale over the course of its 5 year lifespan. The plan will be further developed for all measures to include measurement methodology and targets at Final Business Case for Phase 2. This will also ensure alignment of information across the AGD Implementation Plan and Benefits Realisation Plan.

Table 17: Main Outputs Outcomes & Impacts of DPMC

Ref	Indicator	DPMC
	Outputs	
AGD/O/1	Direct/Indirect jobs	✓
AGD/O/2	Construction jobs	✓
AGD/O/3	Safeguarded jobs	✓
AGD/O/4	Community Benefits	✓
AGD/O/5	Jobs retained	
AGD/O/6	Jobs secured	
AGD/O/7	New or upgraded roads/junctions/cycle pathways	✓
AGD/O/8	Journey time savings/modal shifts	
AGD/O/9	Development space unlocked	✓
AGD/O/10	Reduced vacant & derelict land	✓

AGD/O/11	Digital Infrastructure	
AGD/O/12	New Residential Energy Supply	
AGD/O/13	Visitors	
AGD/O/14	Start-Ups	✓
AGD/O/15	Private sector investment	✓
AGD/O/16	Leverage: (including LA, HE/FE, Private Sector and any other leverage)	✓
AGD/O/17	Income Levels	
AGD/CB/O/1	Training places / Weeks	✓
AGD/CB/O/2	Training places / accredited qualification main-contractor	✓
AGD/CB/O/3	Training places / accredited qualification sub-contractor	
AGD/CB/O/4	Schools Outreach	✓
AGD/CB/O/5	CWB Support Places	✓
AGD/CB/O/6	Fair Work Accreditation	
AGD/CB/O/7	SME's supported	✓
AGD/CB/O/8	Regional Supplier Spend	✓
AGD/CB/O/9	Work Experience	✓
AGD/CB/O/10	Total jobs created by NSAfC projects (Apprentices)	
AGD/CB/O/11	Total jobs created by NSAfC projects (Graduates)	
AGD/CB/O/12	Total jobs created by NSAfC projects (New Entrants)	
AGD/CB/O/13	Construction Careers Information, Advice & Guidance (CCIAG) Events	
AGD/CB/O/14	Number of learners receiving an Industry certification - main contractor	
AGD/CB/O/15	Number of learners receiving an Industry certification – sub-contractor	
AGD/CB/O/16	Number of Training Plans for sub-contractors	
AGD/CB/O/17	Site visits by Colleges	✓
AGD/CB/O/18	Supply Chain Briefings to sub-contractors	
AGD/CB/O/19	Business Skills Supports for sub-contractors	
AGD/CB/O/20	Support for the Third Sector	
AGD/CB/O/21	Softer community benefits delivered to Ayrshire as part of the project	✓
Outcomes		
AGD/OT/1	Job Levels (new and maintained)	✓
AGD/OT/2	Development Space uptake	✓
AGD/OT/3	Digital usage patterns	
AGD/OT/4	Reduced (net) Fuel Poverty	
AGD/OT/5	Increase in visitor spend	
AGD/OT/6	Start-up performance/survival	✓
AGD/OT/7	Additional investment (including FDI)	✓
AGD/OT/8	Improved business productivity	✓
AGD/CB/OT/1	CWB participant well-being uplifts	
AGD/CB/OT/2	Fair Work implementation	
Impacts		
AGD/I/1	Net additional jobs created/ maintained	✓
AGD/I/2	Net additional returns on investment	✓
AGD/I/3	Net changes in Fuel Poverty	
AGD/I/4	Net additional user productivity	
AGD/I/5	Follow on investment	✓
AGD/I/6	Reduced levels of deprivation within the region	
AGD/I/7	Increased income levels	

AGD/CB/I/1	Wider uptake of Well Being/Fair work	
AGD/CB/I/2	Net uplifts in regional supplier spend	✓

In addition to the above Plan, NAC has agreed a number of outcomes with Scottish Enterprise related to their grant for the Phase 1 refurbishment works. These are as follows:

- deliver 645 sq.m of new business space by completion of refurbishment;
- create 14-22 new jobs (gross) paying above the Real Living Wage by 2026;
- achieve adoption by 75 – 137 companies of new digital processes from Phase 1 of the DPMC by 2026; and
- leverage approximately £7.95 million to £10.075 million of revenue funding in Phase 1 of the DPMC by 2026.

3.6.3 Estimating costs

In terms of the refurbishment works for DPMC Phase 1, a pre-tender estimate was undertaken by the project cost consultants and came in at just under £543,000. This excluded contingencies but included an allowance of £82,750 for provisional sums and day work items. This was well within the allocated budget of £660,000, for this aspect of Phase 1.

3.6.4 Cost appraisal conclusions

The supplier selected as a result of the cost assessment of the bidders has a tender value which is well below the available budget of £660,000.

3.7 Qualitative benefits appraisal

The qualitative benefits associated with the DPMC generally, were set out within the Programme Business Case.

3.7.1 Methodology

The appraisal of the qualitative benefits was undertaken via the following process:

- Identifying the benefits criteria relating to each of the investment objectives
- Weighting the relative importance (in percentage terms) of each benefit criterion in relation to each investment objective
- Scoring each of the short-listed options against the benefit criteria on a scale of 0-9
- Deriving a weighted benefit score for each option

3.7.2 Qualitative Benefits Criteria

The benefits criteria were weighted as follows for each investment objective, as part of the PBC. Specific qualitative benefits have been added for Phase 1 of the DPMC but maintaining the original percentages. These benefits relate to the overall Phase 1 DPMC project over the course of its operation. The refurbishment contract will contribute to achieving these benefits.

Table 18: Qualitative Benefits Criteria

Investment Objectives	Qualitative benefits – DPMC	Phase 1 Qualitative Benefits	Weight
Establish the Digital Process Manufacturing Centre's facility infrastructure and ensure operational readiness	Building process manufacturing knowledge and capability within Scotland	Developing the skills base	25%

Create digital process manufacturing partnerships and establish new collaborations and supply chains	Strengthen existing partnerships and develop new collaboration opportunities between industry and research. Expand supply chains, especially within North Ayrshire, and strengthen regional connections	Strengthening supply chains	25%
Develop a national digital process manufacturing research agenda	The i3 centre will be a strategic part of the national innovation network and support the transformation of manufacturing to capitalise on Industry 4.0	Carbon efficiency savings	25%
Build a digital manufacturing training and skills programme tailored to the process manufacturing sector	Increase collaboration with local and regional education partners to expand pathways to industry. Accelerate the transition of local people into high skill and high value jobs	Developing the skills base	25%

Each investment objective has been assigned equal weighting to ensure fair consideration within the analysis, as each objective is essential to delivering transformational benefits to the North Ayrshire.

3.7.3 Qualitative Benefits Scoring

The tender assessment for the refurbishment contract included a quality assessment of the bids based on a 40% quality / 60% cost ratio. NAC received competent submissions in relation to this aspect and were able to score bidders against a set of agreed criterion.

3.7.4 Analysis of Key Results

NAC's Corporate Procurement Unit were able to provide a completed tender score sheet for five bidders, providing scores related to the quality and cost aspects, identifying a preferred bidder.

3.8 Risk Appraisal – Unquantifiables

The refurbishment tender for Phase 1 poses a number of risks which are contained in the main risk register for the project. In summary, the main risks related to this project are considered to be:

- Failure to obtain approval for the project's Business Case.
- Failure to commit to the project by all project partners.
- Similar projects are developed that reduce the requirement for the project's services
- All sources of capital and revenue funding for the project are insufficient to deliver and operate the project.
- Delays to the project timescales caused by issues such as partner approvals, land acquisition, protected species, statutory consents, procurement or construction.
- The project fails to attract enough of its target audience to generate sufficient income.

A key project mitigation is the delivery of Phase 1 of the project to test the feasibility and sustainability of the Phase 2 permanent facility. However, it is worth noting that Phase 1 also has a number of specific risks that are of concern to the partners. In particular, these include significant delays to the approvals process for the FBC which has multiple approval /

endorsement stages and the award of the refurbishment tender which if delayed, Scottish Enterprise has flagged up could jeopardise the award of their funding for the refurbishment works. In this respect, an additional risk has been added (R37) to highlight this.

No specific risks have been identified should the recommended preferred bidder be selected.

3.9 The preferred option – selected supplier

As a result of the Quick Quote procurement process to select a supplier to undertake refurbishment works to the proposed DPMC Phase 1 location, a preferred supplier has been selected to be appointed, who submitted a competent bid and will be appointed following the FBC approval process.

3.10 Sensitivity Analysis

Sensitivity analysis has not been undertaken as part of this FBC process, due to the purpose of this tender which is for fairly small-scale refurbishment works and is only one element of the DPMC Phase 1 project and is not specialist

3.11 Preferred option

The preferred option is to select the recommended supplier in accordance with the tender assessment of the refurbishment works as part of Phase 1. This option offers value for money at approximately 30% below the available budget for the project and will create the space for the delivery of DPMC Phase 1.

4. Commercial Case

4.1 Introduction

This section of the FBC sets out the negotiated arrangements. This is for the provision of refurbishment works to Booth Welsh at 3 Riverside Way in Irvine, to create Phase 1 of the DPMC project, under a contract with the selected bidder to refurbish the location in preparation for its launch and in order to provide the required services.

4.2 Required services

At this stage of the FBC project, the products and services under contract are for internal alterations to the ground floor and mezzanine area of a vacant warehouse space at Booth Welsh in Irvine, Ayrshire. Additional services for Phase 1 relate to investment in equipment and staff for which the FBC will be updated in due course.

4.3 Agreed risk transfer

Risks that could affect the successful implementation of the project have been identified and are set out in detail in the risk register attached as Appendix E. This includes details of risk owners, risk evaluation and mitigation measures. In terms of this FBC, the general principle of 'risk passed to the party best able to manage them' subject to value for money, has been applied. It has been agreed that service risks will be apportioned in the design, build and operational phases of Phase 1, as set out within the table below:

Table 19: Risk Allocation

Risk Category	Potential Allocation		
	Public	Private	Shared
1. Design Risk	✓		
2. Construction & development risk			✓
3. Transition and implementation risk			✓
4. Availability & performance risk			✓
5. Operating risk	✓		
6. Variability of revenue risks	✓		
7. Termination risks			✓
8. Technology and obsolescence risks	✓		
9. Control risks			✓
10. Residual value risks			✓
11. Financing risks			✓
12. Legislative risks	✓		
13. Other project risks			✓

4.4 Agreed charging mechanisms

The payment mechanism agreed with the service provider with respect to the planned refurbishment works will involve submission of invoices by the contractor at agreed stages of the works, which will be certified by the consultant's team to NAC for payment. NAC will then submit a grant claim to Scottish Enterprise in retrospect for the works.

4.5 Agreed contract length

The agreed contract length for the refurbishment works will take place over the course of approximately 16 weeks with completion likely to be by December 2022.

4.6 Key contract clauses

The contract is SBCC Standard Building Contract with Quantities for use in Scotland (SBC/Q/Scot), 2026 Edition. A copy of the contract can be provided should this be required. The key contractual clauses are:

- Retention Percentage – 5%
- Contractors Insurance – injury to persons or property - £2,000,000
- Insurance – Liability of Employer - £5,000,000
- Insurance Options
- Contractors Designed Portion Professional Indemnity Insurance
- Joint Fire Code

There are no personnel implications and TUPE does not apply.

4.7 Personnel Implications (including TUPE)

The partners for DPMC do not expect Transfer of Undertakings (Protection of Employment) Regulations 1981 (TUPE) to apply to any aspect of this project.

4.8 Procurement route and implementation timescales

The procurement of various aspects of the DPMC Phase 1 project will be shared between University of Strathclyde and North Ayrshire Council. This FBC focusses on the procurement of refurbishment works, with plans for the procurement of other aspects of the project set out in the Management Case of this FBC.

The refurbishment works were procured through the Quick Quote system on Public Contracts Scotland.

The implementation milestones for the scheme are to be discussed with the selected service provider. Tenderers have been made aware that the timescales are subject to a number of approvals which will extend the standard approval timescales process but will remain within the 120 day period that the tenders remain open. The dates shown below are critical in terms of how quickly the FBC can be endorsed and approved in order to award the contract before the 120 day period expires, to enable the works to commence and the Council to claim the majority of funds for the works from Scottish Enterprise.

Stage	Date
Tender returns	01 June 2022
DPMC PBC Approval	29 June 2022
Tender Outcome Report	22 July 2022
FBC endorsement	Tbc

NAC Cabinet	23 August 2022
Ayrshire Joint Committee approval	August 2022 (tbc)
Contract award	August 2022 (tbc)
Contract start	September 2022
Contract end	December 2022
NAC submit grant claim to Scottish Enterprise	December 2022

4.9 FRS Accountancy Treatment

The assets underpinning delivery of this service will be on the balance sheet of the partner organisations. As project lead, the University of Strathclyde's Annual Reports comprise the Statement of Principal Accounting Policies, Statement of Comprehensive Income and Expenditure, Statement of Changes in Reserves, Balance Sheet, and Statement of Cash Flows. The financial reporting framework applied in their preparation is applicable law and United Kingdom Accounting Standards including FRS 102 "The Financial Reporting Standard applicable in the UK and Republic of Ireland" (United Kingdom Generally Accepted Accounting Practice).

5. Financial Case

5.1 Introduction

The purpose of this section is to set out firm financial implications of this contracted solution. It should be noted that there has been no change to the financial implications, which remain the same as those within the recently approved Programme Business Case.

5.2 Impact on the organisation's income and expenditure account

The anticipated payment stream for the project in relation to the Ayrshire Growth Deal funding and its intended life span is set out in the following table. which shows Phase 1 and Phase 2. NAC is using its contribution to pilot the project and accelerate the provision of services

This FBC focusses on the procurement of certain aspects of Phase 1 and in particular, the refurbishment works. The payment stream in relation to these works, is shown against 22/23 from Scottish Enterprise (£515,000) and Partners (£145,000), including NAC. The £1M AGD allocation for equipment will be made to University of Strathclyde in the form of a grant.

The tender for the refurbishment works has come back within the budget available enabling the works to progress.

Table 20: DPMC Financial Profile

Year	0	1	2	3	4	5	6	7	8	9	10	Total
	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	
£ millions	£	£	£	£	£	£	£	£	£	£	£	£
UK Govt	0	0	0	0	1.104	3.397	0.499	0	0	0	0	5.000
NAC	0	0	0	0.700	0.050	0.250	0	0	0	0	0	1.000
NAC*	0.013	0.090	0.082	0	(0.185)	0	0	0	0	0	0	0
AGD Total	0.013	0.090	0.082	0.700	0.969	3.647	0.499	0	0	0	0	6.000
Scot. Ent.	0	0	0	0.515	0	0	0	0	0	0	0	0.515
Partners	0	0	0	0.145	00	0	0	0	0	0	0	0.145
DPMC Total	0.013	0.090	0.082	1.360	0.969	3.647	0.499	0	0	0	0	6.660

*funding to be claimed after FBC approval

5.3 Impact on the Balance Sheet

The proposed capital expenditure for the refurbishment works is supported by funding from Scottish Enterprise and the project partners and is affordable and within the budget available. The remaining £1m capital budget for equipment is North Ayrshire Council's contribution to the AGD and has been previously agreed by Cabinet.

5.4 Overall Affordability

The DPMC project Phase 1 has support of **£1.66M** in capital. This comprises of £1m from the AGD, £515,100 from Scottish Enterprise and £48,300 from each of the three partners. This will support the investment in the refurbishment of the Phase 1 location, specific equipment and cover staff costs during the initial 5 years of the centre's operations. A key aspect to the next stage of work as mentioned in the previous section, is further engagement with industry which is necessary to secure interest and collaboration with process manufacturing companies. A tender has been received for the refurbishment aspect of the works which is

competent, affordable and well within the available budget (£0.66M). The process for procuring the other aspects of the Phase 1 project is set out within the Management Case.

ASSURANCE STATEMENT

This is to confirm that the financial profile for the project outlined in Section 5.2 above reflects the position of North Ayrshire Council as at the date stated below.

Name of Council's S95 Officer in block capitals: MARK BOYD

Signed:

Date: 3 August 2022

6. Management Case

6.1 Introduction

This section of the FBC addresses how the scheme will be delivered successfully.

6.2 Programme management arrangements

Monitoring of the overall DPMC programme will be undertaken in accordance with the NMIS Quality Management System. Within the Quality Management System, quality procedures have been established, documented and implemented across NMIS for providing research products and services which meet or exceed KPI requirements, whilst satisfying the requirements of BS EN ISO 9001:2008. This includes the co-ordination and management of projects in order to achieve the agreed DPMC objectives; and maintain control over a multiple project environment.

The DPMC project includes funding from the Ayrshire Growth Deal. The three Ayrshire Councils (East, North and South) have agreed to implement a new governance structure to oversee the delivery of the Ayrshire Growth Deal and to promote the main drivers for the Regional Economic Partnership. The governance for the AGD programme includes the following:

- The Economic Joint Committee – comprising Elected Members, representatives from Scottish Enterprise, Skills Development Scotland, business and education.
- The Ayrshire Regional Economic Partnership Board – comprising Elected Members,
- Representatives from public sector partners including SE, SDS, HIE, VisitScotland, HE, FE, the third sector and the business community.
- These committees have oversight of the AGD both at a programme level and in terms of approval of detailed business cases for individual projects as well as continued monitoring and evaluation of the AGD programme post Deal document sign off.
- The projects also have internal Gateway Review Boards to monitor and review progress and reach agreement on key aspects of the project.

6.3 Project management arrangements

Successful delivery of DPMC will be in accordance with University of Strathclyde and NMIS best practice, including review and update of the project management strategy as required. NMIS has established project management arrangements.

DPMC project management arrangement will:

- Communicate the management framework for the successful delivery of all programmes and projects undertaken within DPMC.
- Provide templates and guidance for appropriate use.
- Identify and link other business management system processes.
- Provide guidance and good practice to be followed when planning and delivering programmes and projects.

Phase 1 of the DPMC project comprises of a number of procurement processes related to refurbishment works, the purchase and installation of equipment and the recruitment of staff for the facility. The roles and responsibilities for each of these aspects are set out in 6.3.2 below. This FBC includes the details of the procurement process for the refurbishment contract. Subsequent detail related to the remaining procurement packages will be included

as addendums to the FBC and approved through the Ayrshire Joint Committee. Further information related to these future processes are set out below.

DPMC Phase 1, Equipment Procurement

The procurement of equipment will be supported through a grant of £1M from North Ayrshire Council to the University of Strathclyde. This will be drawn down in tranches, as not all equipment will be required at the commencement of Phase 1 and some equipment may be provided in kind from companies. In this respect it will be prudent to retain some funding for future years and as technology is changing rapidly. The NMIS procurement process will be managed through financial controls within NMIS, control and selection of suppliers and contractors. NMIS quality procedures provides templates and guidance for appropriate use including 'requisition' (formal documented request, which allows the organisation to obtain goods) and 'procurement' (formal documented request, which allows the organisation to obtain goods), identifying roles and responsibilities, and identifying links to other business management system processes within NMIS.

Due to the rapidly advancing nature of Industry 4.0, DPMC will proactively manage the obsolescence of capital equipment through a phased procurement process. This will be carried out in conjunction with strategic planning of demonstrator technology based on industry needs, NMIS and CPI expertise, and market intelligence.

Where possible, NMIS will procure equipment through its framework agreements. These will cover key DPMC items including ICT, Multi Functional Devices (All in one photocopying, printing, scanners and faxes), Audio Visual Equipment & Installations. DPMC will utilise existing University of Strathclyde agreements which satisfy their requirements and deliver value for money where possible. Specialist process equipment with no framework agreements will be procured in line with Scottish Government's Public Sector Procurement Guidance. High value tenders will be conducted using guidance from Scottish Government's Procurement Journey.

DPMC Phase 1, Staff Recruitment Process

DPMC is committed to providing equality and opportunity for all irrespective of their protected characteristics. DPMC will appoint such members of staff as may be deemed necessary to deliver its strategic objectives. Positions shall be publicly advertised, in the interests of ensuring open and transparent recruitment practices, to ensure recruitment of the best talent and to promote equality and diversity. The DPMC Managing Director will play a fundamental role in delivering the centre's strategic objectives and will have direct influence on its success. The MD will provide the leadership, management and vision necessary to ensure DPMC has the operational controls, administrative and reporting procedures, people, and systems in place to effectively grow the organisation and ensure financial strength and operating efficiency. The Managing Director will also lead the implementation of DPMC strategy and operational management activities. This will be undertaken by working closely with DPMC partners, industrial members, funding bodies and University staff. The role will be responsible ensuring the ongoing financial sustainability of the Centre through membership, grant funding, and commercial income by engaging with local and international industrial partners, funding agencies and prospective partners/client.

In order to minimise external recruitment risks including those inherent in searching for workers via the external labour market, the DPMC Strategy Board will ensure the proper quorum consists of at least:

- University of Strathclyde
 - The Principal / nominee (Convener)
 - Lay Member of Court
 - Associate Principal & Executive Dean / nominee
 - Head of Department
 - Professorial Senate representative
 - HR representative
 -
- CPI
 - Senior subject area specialist
 - up to 2 external assessors may attend (advisory capacity only / not part of quorum)

The diversity of the quorum is intended to assess various aspects of a candidate including technical expertise, operational experience, and industrial relationships. The MD role will require as a minimum a degree or PhD in a relevant technology area, or substantial professional experience and an established track record at management level within a relevant professional environment.

DPMC Phase 1, Lease Procedures

In order to deliver a sustained location for Phase 1, a five year lease will be signed within Ayrshire's i3 Enterprise Area. This lease will be for a newly refurbished area within an existing Ayrshire engineering services company, Booth Welsh. Due to the collaborative nature of DPMC, the partners have worked closely to mitigate any risks associated with the lease and refurbishment. This includes input from all partners on the lease and license for works, joint assessment of refurbishment tenders, and appointment of a single CDM Client. The lease is currently in a final and agreed form.

6.3.1 Project reporting structure

Project reporting arrangements will be established as details of the commercial and funding model for programme delivery are finalised. These arrangements will be in line with consortium best practices. Reporting to stakeholders will be delivered via a managed monthly project reporting timetable to a standard template, providing a monthly status report covering progress, issues and risks, key project metrics, change and cost control. A report delivering performance against budget will form part of the package.

In terms of Phase 1, there is a number of reporting structures in place at the moment to oversee the delivery of Phase 1, prior to a more formal reporting structure being in place once the Managing Director is in post and the project is operational. This includes a monthly Steering Group meeting with partner representatives and representatives from Ayrshire College, Skills Development Scotland and Scottish Enterprise. There is also an internal Project Board, managed by NAC which meets every two weeks at the moment and has representation from the Council's Growth and Investment, Legal, Finance, Communications teams and also Business Development, Procurement and Employability teams as required. This particular

group oversees progress with the refurbishment works, legal and financial matters and reporting requirements. The AGD reporting structure is shown below

Figure 3: DPMC Reporting linked to AGD Reporting Structure

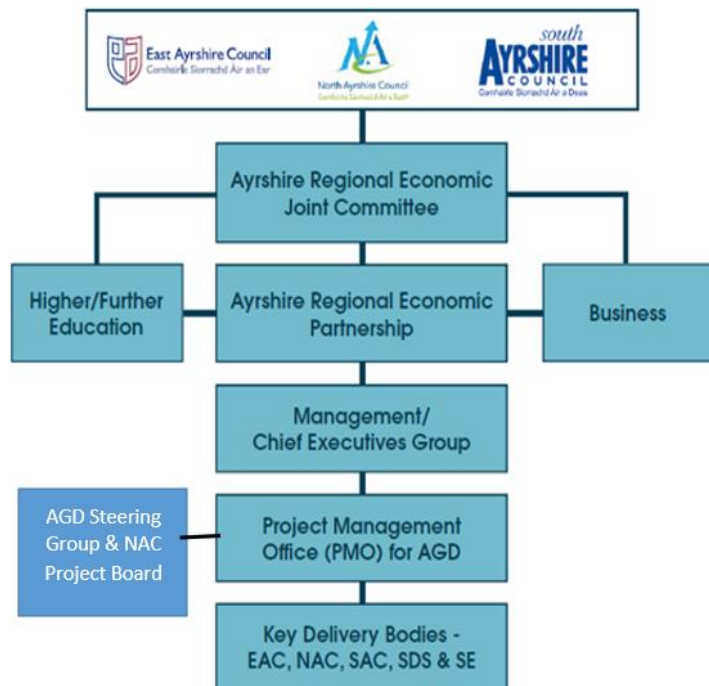
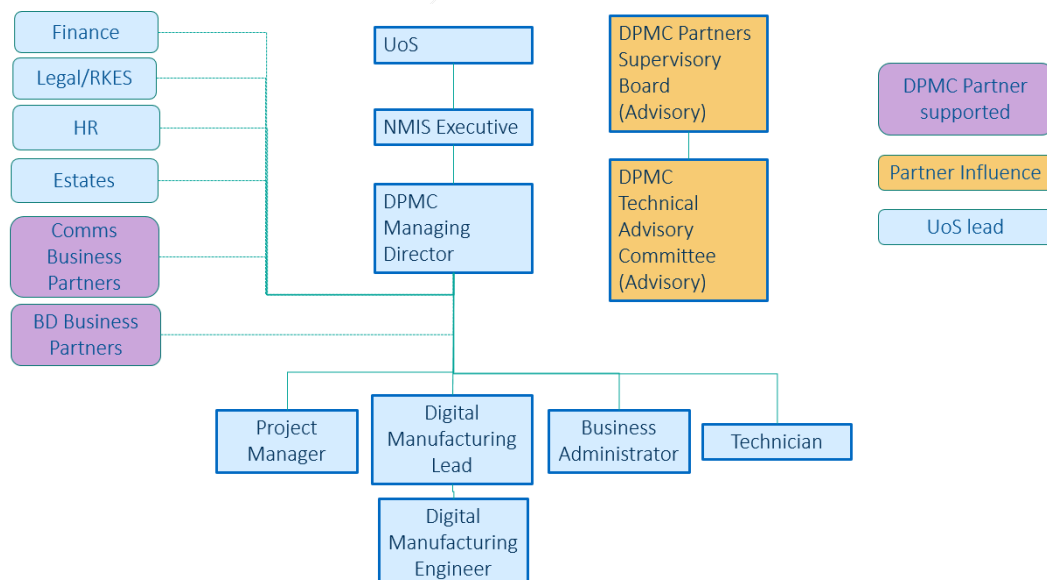


Figure 4: DPMC Reporting and Governance Structure to be established once Managing Director in post



6.3.2 Project roles and responsibilities

The DPMC project is a specialist project across Phases 1 and 2 and has a project manager (David Hernandez) appointed by the University of Strathclyde, responsible for its day-to-day delivery and who reports to Keith Ridgway, Executive Chair of NMIS. For the purposes of the Ayrshire Growth Deal processes, the SRO is Karen Yeomans, Director, Growth & Investment North Ayrshire Council and Project Lead is Marnie Ritchie, Regeneration Manager, North Ayrshire Council. Phase 0 training and demonstration has been run by the NMIS Manufacturing Skills Academy project team. The overall Project Team includes the Project Manager and representatives from North Ayrshire Council and CPI and other partner organisations, to support completing specific project activities. The table below sets out roles and responsibilities mostly in relation to Phase 1 of the project which is the focus of this FBC:

Table 21: Roles & Responsibilities

Partner	Role / Responsibility	Contact Details
University of Strathclyde	<u>Project Lead</u> Leaseholder for Phase 1 Recruitment of staff Procurement of Equipment Operator of Phase 1 pilot DPMC Supervisory Board administrator	David Hernandez, DPMC Project Manager
North Ayrshire Council	<u>Project Partner</u> Procurement of Phase 1 refurb Grant applicant to SE Grant award to UoS for equipment	Marnie Ritchie, Regeneration Manager, Growth & Investment, NAC
Centre for Process Innovation	<u>Project Partner</u> Business development support Membership development	Dr Neil Sheddan, Business Development Director, MMIC & CPI

6.3.3 Project Plan

The Project Plan for Phase 1 of the DPMC is set out in the following table:

Table 5: DPMC project milestone activity – Phase 1

Ref.	DPMC PHASE 1: Milestone Activity	Est. Date	Quarter (financial year)	Status
1-M1	NMIS & CPI obtain Board endorsements for project.	Jun 21	Q1 21/22	Complete
1-M2	Submit OBC to Scottish Enterprise seeking capital investment in Phase 1	Aug 21	Q2 21/22	Complete
1-M3	Third party land and building purchase process from landlord is completed.	Oct 21	Q1 21/22	Complete
1-M4	NAC Cabinet Approval of Phase 1 & £1m capital	Nov 21	Q3 21/22	Complete
1-M5	NMIS procurement and appointment of consultants to develop detailed Ph1 spec.	Nov 21	Q3 21/22	Complete
1-M6	NMIS conclude heads of terms and lease agreement for Ph1 building with third party.	Mar 22	Q4 21/22	Ongoing
1-M7	Partners signing of Collaboration Agreement	Mar 22	Q4 21/22	Complete
1-M8	NAC completes partner funding agreements	Mar 22	Q4 21/22	Ongoing
1-M9	NMIS submit building warrant	May 22	Q4 21/22	Complete

Ref.	DPMC PHASE 1: Milestone Activity	Est. Date	Quarter (financial year)	Status
1-M10	Partners develop and agree spec and procurement approach for equipment	Aug 22	Q2 22/23	Ongoing
1-M11	Submit Programme Business Case to PMO	May 22	Q1 22/23	Complete
1-M12	Procurement of equipment (tbc)	Oct 22	Q4 22/23	Ongoing
1-M13	NAC tender refurb works through Quick Quote	May 22	Q1 22/23	Complete
1-M14	NAC submits FBC to Government for endorsement	May 22	Q1 22/23	Not Started
1-M15	PBC approved by Government	Jun 22	Q1 22/23	Complete
1-M16	NMIS receive tender returns for equipment	Sep 22	Q3 22/23	Ongoing
1-M17	Endorsement of FBC by Government	Aug 22	Q2 22/23	Not started
1-M18	Approval of FBC for Phase 1 by Joint Committee & award to contractor	Aug 22	Q2 22/23	Not Started
1-M19	Contractor commences refurb works to Phase 1 space	Sept 22	Q2 22/23	Not Started
1-M20	NMIS staffing recruitment	Dec 22	Q3 22/23	Ongoing
1-M21	NMIS install and test equipment in Ph 1 space	Dec 22	Q3 22/23	Not Started
1-M22	NAC complete refurb works to Phase 1 space & submit grant claim	Dec 22	Q3 22/23	Not Started
1-M23	NMIS commence operation of Phase 1 (5 yrs)	Dec 22	Q3 22/23	Not Started
1-M24	Official launch of Phase 1	Jan 23	Q4 22/23	Not Started
1-M25	Annual reporting, reviews and monitoring	til Apr 27	Q4 26/27	Not Started
1-M26	NMIS completes operations at Pilot facility	Apr 27	Q1 27/28	Not Started

6.4 Use of special advisers

Special advisers are being used for Phase 1 of the project as follows:

Table 22: Special Advisers

Specialist Area	Adviser
Technical	Wylie Shanks, Architect & Principal Designer Hawthorn Boyle, Mechanical & Electrical Civic Engineers, Structural Currie & Brown, Cost Advisers University of Strathclyde, PM & Clerk of Works Centre for Process Innovation – specialist advisers Equipment advisors – to be confirmed
Legal	Harper MacLeod Anderson Strathern

6.5 Arrangements for change management

The change control process will be managed by NMIS, according to University of Strathclyde procedures. This procedure will be used to control all changes or other events, which may arise during the delivery of DPMC phases. In relation to Ayrshire Growth Deal funds that support the project, arrangements for change management are set out within the Ayrshire

Growth Deal Governance Document (v14) and are summarised in the flow chart in Appendix P.

6.6 Arrangements for benefits realisation

Benefits will be managed and monitored throughout the project delivery phases and after project closure via a formal evaluation process. This will also consider other aspects of the project such as management processes and project efficiency as well as impact. This will be undertaken by University of Strathclyde through periodic monitoring as part of a consistent approach to actively manage opportunities and dependencies.

A Benefits Realisation Plan for the Ayrshire Growth has been prepared and has identified the outcomes, outputs and impacts that could be measured for this project as set out below. This will be further developed for all measures to include measurement methodology and targets at Final Business Case for Phase 2. This will also ensure alignment of information across the AGD documentation of the Implementation Plan and Benefits Realisation Plan.

Table 23: DPMC Outputs, Outcomes and Impacts within Benefits Realisation Plan

Ref	Indicator	DPMC
	Outputs	
AGD/O/1	Direct/Indirect jobs	✓
AGD/O/2	Construction jobs	✓
AGD/O/3	Safeguarded jobs	✓
AGD/O/4	Community Benefits	✓
AGD/O/5	Jobs retained	
AGD/O/6	Jobs secured	
AGD/O/7	New or upgraded roads/junctions/cycle pathways	✓
AGD/O/8	Journey time savings/modal shifts	
AGD/O/9	Development space unlocked	✓
AGD/O/10	Reduced vacant & derelict land	✓
AGD/O/11	Digital Infrastructure	
AGD/O/12	New Residential Energy Supply	
AGD/O/13	Visitors	
AGD/O/14	Start-Ups	✓
AGD/O/15	Private sector investment	✓
AGD/O/16	Leverage: (including LA, HE/FE, Private Sector and any other leverage)	✓
AGD/O/17	Income Levels	
AGD/CB/O/1	Training places / Weeks	✓
AGD/CB/O/2	Training places / accredited qualification main-contractor	✓
AGD/CB/O/3	Training places / accredited qualification sub-contractor	
AGD/CB/O/4	Schools Outreach	✓
AGD/CB/O/5	CWB Support Places	✓
AGD/CB/O/6	Fair Work Accreditation	
AGD/CB/O/7	SME's supported	✓
AGD/CB/O/8	Regional Supplier Spend	✓
AGD/CB/O/9	Work Experience	✓
AGD/CB/O/10	Total jobs created by NSAfC projects (Apprentices)	
AGD/CB/O/11	Total jobs created by NSAfC projects (Graduates)	
AGD/CB/O/12	Total jobs created by NSAfC projects (New Entrants)	
AGD/CB/O/13	Construction Careers Information, Advice & Guidance (CCIAG) Events	

AGD/CB/O/14	Number of learners receiving an Industry certification – main contractor	
AGD/CB/O/15	Number of learners receiving an Industry certification – sub-contractor	
AGD/CB/O/16	Number of Training Plans for sub-contractors	
AGD/CB/O/17	Site visits by Colleges	✓
AGD/CB/O/18	Supply Chain Briefings to sub-contractors	
AGD/CB/O/19	Business Skills Supports for sub-contractors	
AGD/CB/O/20	Support for the Third Sector	
AGD/CB/O/21	Softer community benefits delivered to Ayrshire as part of the project	✓
Outcomes		
AGD/OT/1	Job Levels (new and maintained)	✓
AGD/OT/2	Development Space uptake	✓
AGD/OT/3	Digital usage patterns	
AGD/OT/4	Reduced (net) Fuel Poverty	
AGD/OT/5	Increase in visitor spend	
AGD/OT/6	Start-up performance/survival	✓
AGD/OT/7	Additional investment (including FDI)	✓
AGD/OT/8	Improved business productivity	✓
AGD/CB/OT/1	CWB participant well-being uplifts	
AGD/CB/OT/2	Fair Work implementation	
Impacts		
AGD/I/1	Net additional jobs created/ maintained	✓
AGD/I/2	Net additional returns on investment	✓
AGD/I/3	Net changes in Fuel Poverty	
AGD/I/4	Net additional user productivity	
AGD/I/5	Follow on investment	✓
AGD/I/6	Reduced levels of deprivation within the region	
AGD/I/7	Increased income levels	
AGD/CB/I/1	Wider uptake of Well Being/Fair work	
AGD/CB/I/2	Net uplifts in regional supplier spend	✓

6.7 Arrangements for risk management

DPMC will follow the Risk Management Procedure of NMIS Quality Management System Quality Procedure 11. This procedure will:

- Communicate the process involved with Risk Management.
- Provide templates and guidance for appropriate use.
- Identify roles and responsibilities.
- Identify and link other business management system processes.

A copy of the project risk register is attached at Appendix E. This sets out who is responsible for the management of risks and the required counter measures.

6.8 Arrangements for contract management

The refurbishment aspect of Phase 1 will be managed by consultants on behalf of NAC subsequent procurement stages for equipment and recruitment of staff, will be managed by

the University of Strathclyde. This will include regular progress meetings and reports by the contractor for the refurbishment works which will include partner representation and representation from Booth Welsh who are hosting the project. The University's Estates Team's Project Manager will oversee and monitor the works on behalf of North Ayrshire Council and will be responsible for resolving any issues that arise with the contractor. As the works are relatively low in value and are not of a complex nature its anticipated that these arrangements will be sufficient.

6.9 Arrangements for post project evaluation

An evaluation of the project will take place and will be coordinated by the partners. Key lessons learned will be shared across the partnership and will inform the development of DPMC Phase 2.

The AGD PMO recently produced a Benefits Realisation Plan for the AGD projects. The purpose of the Plan is to demonstrate, to local, regional and national stakeholders, how the AGD will capture the outputs, outcomes, impacts and community benefits resulting from Deal investments including the DPMC project at i3. It sets out approaches to project monitoring and reporting, including definitions guidance and deal programme and project evaluation

The partners' Supervisory Group will be responsible for managing risk and benefits realisation for Phase 1 of the project. NAC will manage benefits realisation through reporting to the PMO and Government. Day to day management will, however, be the responsibility of the DPMC Project Manager.

6.10 OGC Gateway Review Arrangements

The Office of Government Commerce (OGC) Gateway Process is designed to provide independent guidance to Senior Responsible Owners (SROs), programme and project teams and to the departments who commission their work, on how best to ensure that their programmes and projects are successful. This process examines programmes and projects at key decision points in their lifecycle. It looks ahead to provide assurance that they can progress successfully to the next stage. These key stages or 'Gates' are:

- Gate 0 – Strategic Assessment
- Gate 1 – Business Justification
- Gate 2 – Delivery Strategy
- Gate 3 – Investment decision
- Gate 4 – Ready for Service
- Gate 5 – Benefits Realisation and Operational Review

The below diagram illustrates how these 'Gates' are used at key decision points throughout a project life-cycle, and how this fits in the context of wider programmes. The intention for this project is for the University Court and NMIS Board to review to Gate 2 with future assurance to be conducted around Gate 4-5.

In terms of Phase 1 and this specific FBC, the internal project board discussed the aspects of the refurbishment tender at a meeting on 21st July 2022 and are satisfied with the outcome of the process outlined to them at the meeting.

The wider context of the OGC Gateway™ Process

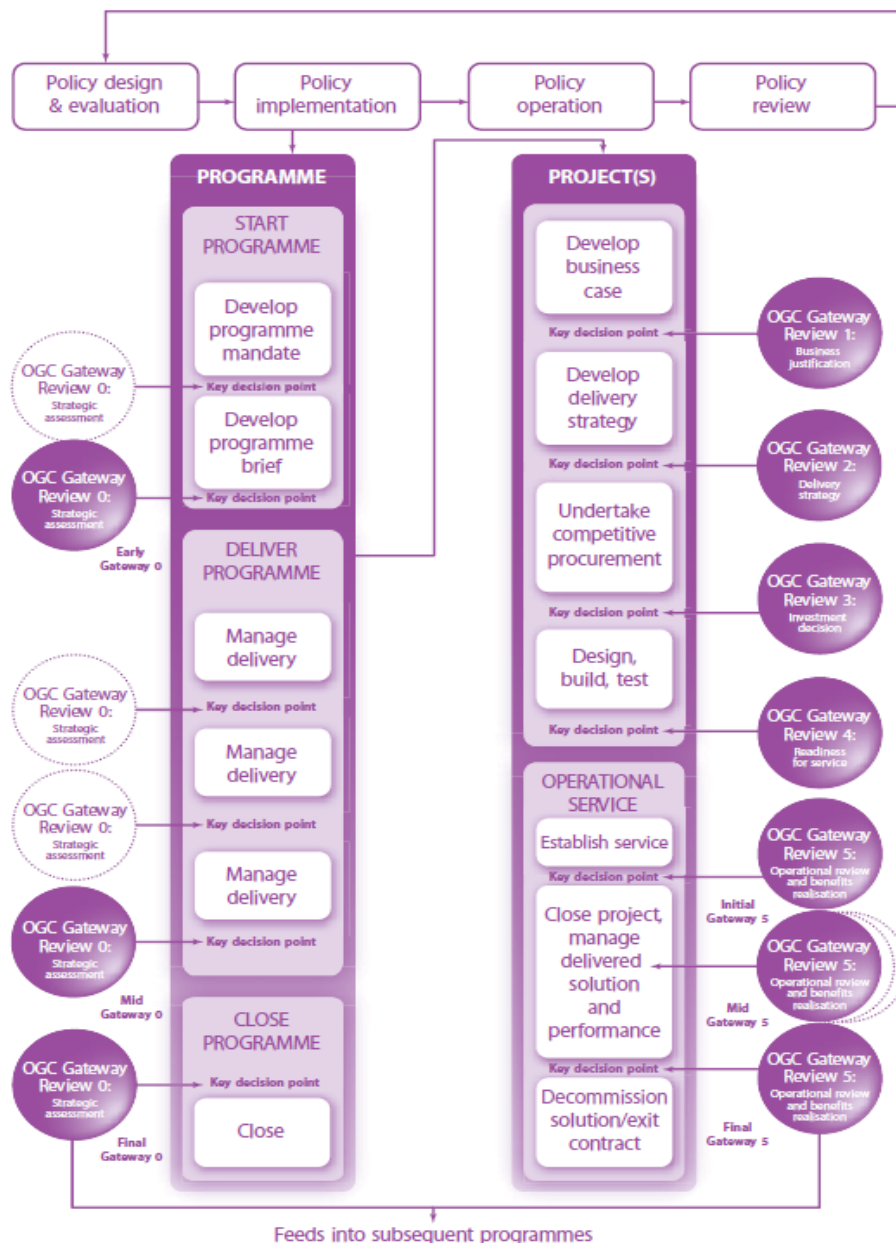


Figure 3: OGC Gateway Process

The impacts / risks associated with Phase 1 of the project have been considered and are set out within this Full Business Case and covered within the Risk Appendix.

6.11 Contingency Plans

The partners have signed a Collaboration Agreement to support the delivery of Phase 1 of the DPMC. An online phase was launched in October 2021. Should there be an issue with the delivery of the refurbishment aspect of the project, some services can be delivered online until the refurbishment is completed.

Signed:

Date: 3 August 2022

**Senior Responsible Owner
Project Team**



PART C: APPENDICES

Appendices

The following documents listed below have been included or will be included in subsequent business cases or have been provided separately due to their large size, as stated below.

Table 1: List of appendices

Ref.	Appendices	Comments
A	Inclusive Growth and Community Wealth Building	included
B	AGD project linkages to key policy strategies	Shown in table 7 and table 8
C	SQW Research Report	Provided as a separate document
D	Demand assessment	Provided as a separate document
E	Risk Register	Included
F	Ayrshire Growth Deal Projects Heat Map	Included
G	AGD Project Links	Included
H	Long-list options appraisal	Included
I	Economic Appraisal	Provided as a separate document
J	Community Benefits Statement	Included
K	Financial Appraisal	Provided as a separate document
L	Benefits Realisation Logic Chain	Included
M	Equality Impact Assessment (Draft)	Included
N	Carbon Analysis	Included
O	PMO Economic Modelling	Included
P	Change Management Process	Included
Q	Phase 1, Collaboration Agreement	Provided as a separate document
R	UoS standard terms and conditions	To be included for Phase 2 FBC
S	Financial appraisal	To be included for Phase 2.FBC
T	Benefits register	To be included for Phase 2.FBC
U	Risk potential assessment (RPA)	To be included for Phase 2.FBC
V	Letters of stakeholder support	To be included for Phase 2.FBC
W	Draft OJEU notice	To be included for Phase 2.FBC
X	SOP/ strategic business plans.	To be included for Phase 2.FBC

APPENDIX A: INCLUSIVE GROWTH & COMMUNITY WEALTH BUILDING

I3 Digital Processing Manufacturing Centre: Inclusive Growth and Community Wealth Building

Inclusive Growth Ambition/Objective	How?	IG Barrier	IG Action Plan	CWB pillar	CWB theme	Equalities/ Excluded Group
Increase in GVA across region	Deliver digital services and training to businesses on a phased basis through the creation of Digital Hub.	Intermediate & Advanced Skills, Structure of economy, Advanced digital skills, Business premises Inward investment	Maximising benefits for Ayrshire's business base. Maximising benefits for people – Fair Work. Maximising benefits for places/communities.	Fair employment Land and assets	Promote our investment opportunities to regional and national institutions to gain investment in our communities	
Expenditure in R&D per head	Deliver research and development space, which attracts investment from firms spending in R&D	Structure of economy Advanced digital skills Business premises	Maximising benefits for Ayrshire's business base. Maximising benefits for people – Fair Work. Maximising benefits for places/communities.	Fair employment Land and assets	Promote our investment opportunities to regional and national institutions to gain investment in our communities	
Employment Opportunities	Create employment opportunities for groups that most need them eg disadvantaged groups and protected characteristic groups including women and young people. Detail requirements through Community Benefits in procurement packages. Work with partner organisations to facilitate recruitment of excluded groups.	Intermediate & Advanced Skills, Structure of economy,	Maximising benefits for people – Fair Work. Maximising benefits for places/communities.	Fair employment Procurement	Promote our investment opportunities to regional and national institutions to gain investment in our communities	
Improving skills	Creating pre-employment learning pathways for identified priority groups eg females, living in Ayrshire. Support skills needs of businesses taking space within i3.	Intermediate & Advanced Skills, Structure of economy, Advanced digital skills,	Maximising benefits for people – Fair Work. Maximising benefits for places/communities.	Fair employment	supporting in work progression, and training and skills pipeline	

APPENDIX E: DPMC RISK REGISTER

AYRSHIRE GROWTH DEAL RISK REGISTER: i3 Digital Processing Manufacturing Centre Outline Business Case Stage, Updated July 2022							
Risk Ref	Risk Type	Risk Description	Impact	Probability	Counter Measure	Owner	Date Reviewed
R1	Socio-economic	Impact of Covid pandemic on the project, including delay to project development and reduction in demand for facility.	Medium	Medium	Moderately low risk of impact predicted due to Covid. Economic research emerging indicates appetite to accelerate key infrastructure projects to support recovery and renewal. Reliance on technology leading to businesses reassessing their needs for digital. Work streams have been activated to provide regional support.	Project Partners	Monthly
R2	Business	Not all partners can commit to project.	Low	Low	Steering Group established with Partners. MoU Signed August 2021. Collaboration Agreement being prepared. Agree partner roles and responsibilities. Development of pilot to test project feasibility Scope out other potential partnerships.	Project Partners	Monthly
R3	Political	Detailed Business Case fails	High	Low	Develop OBC in accordance with Green Book. Strong supporting evidence provided for demand. Govts have seen first draft. Identify project costs & confirm funding sources.	NAC / NMIS	Monthly
R4	Political	Related i3 Flexible Space Business Case fails & overall impact of i3 AGD programme is limited.	Low	Low	Project has strong evidence base Commissioned masterplan will provide overall vision. Flex Space OBC approved June 2021. Both projects are not dependent on each.	NAC	Monthly
R5	Business / Timescales	Potential delays in Full Business Case approval	Medium	Medium	Seek clarity on FBC timescales from AGD PMO. Include FBC preparation in project programme. Develop FBC in accordance with Green Book Partner/Stakeholder Risk Assessment Early Market Input/ Partner & Commercial Input Review CAPEX and OPEX costs Review Governance Arrangements	Project Partners / SG	Monthly

AYRSHIRE GROWTH DEAL RISK REGISTER: i3 Digital Processing Manufacturing Centre
Outline Business Case Stage, Updated July 2022

Risk Ref	Risk Type	Risk Description	Impact	Probability	Counter Measure	Owner	Date Reviewed
R6	Business	Service is provided by another facility reducing / negating demand for project.	High	Medium	Establishment of virtual and pilot phases to provide early services. Phase 0 established. Ensure OBC includes overview of other existing / proposed centres and articulates differences and complementarity.	Project Partners	Monthly
R7	Business	Pilot demonstrates that main project is not commercially viable.	High	Low	Partners agree extent of project development that's at risk. Partners instruct pilot monitoring and evaluation to inform commitment to Phase 2 Partners agree to legally commit to project prior to legal commitments on project contracts.	Project Partners	Monthly
R8	Financial	Design / technical studies result in additional costs beyond contingencies and optimism bias.	High	Medium	Develop & validate project brief & specification. Benchmark costs. Ensure early infrastructure costs tested and informed by SI work. Provide Green Book compliant Optimism Bias allowances. Provide for contingency & inflation.	Project Partners / Design Team	Monthly
R9	Regulatory	Compliance with State Aid / Subsidy regulations	High	Low	Engage with State Aid Unit at appropriate stage. Partners to identify specific Subsidy Risks within the project Include as task within programme.	NAC / NMIS	Monthly
R10	Timescales / Business / Professional	Delays caused by resource management / project management issues.	High	Medium	Internal AGD team created. Regular review of project resource/skills needs. Specialist support provided by partner agencies. Ensure external teams have robust procedures in place for replacing resource if required.	Project Partners	Monthly
R11	Contractual/ Professional	Change management issues	Medium	Medium	Clear and agreed procedures to be set in place for internal change management and for external processes with design team and contractor.	Project Partners / Design Team	Monthly
R12	Timescales / Programme	Delays to overall project programme and key milestones.	High	Medium	Prepare a detailed project programme with considered time allowances. Allow for regular reviews.	Project Lead / Design Team	Monthly

AYRSHIRE GROWTH DEAL RISK REGISTER: i3 Digital Processing Manufacturing Centre
Outline Business Case Stage, Updated July 2022

Risk Ref	Risk Type	Risk Description	Impact	Probability	Counter Measure	Owner	Date Reviewed
R13	Timescales / Regulatory	Delays caused by land acquisition / lease agreement processes.	Medium	Low	Early engagement with land/building owners. Ensure programme allows for third party approvals	NAC / NMIS	Monthly
R14	Timescales / Environment	Delays caused by environmental considerations.	High	Medium	Assess Protected Species/Habitat risk at early stage Review & commission all site studies required. Ensure seasonal work/study requirements accounted for in programme.	NAC	Monthly
R15	Timescales / Environment	Delays caused by site investigation work and findings	High	Medium	Instruct SI work at early stage of project.	NAC	Monthly
R16	Timescales / Regulatory	Delays caused by objections.	Medium	Low	Advance programme of Local & Stakeholder Engagement	NAC	Monthly
R17	Timescales / Regulatory	Delays caused by statutory consent processes.	Medium	Medium	Early engagement with planning and building standards to agree timetable for award and identify potential issues	NAC	Monthly
R18	Regulatory	Planning / building warrants not granted.	High	Low	LDP supports development of site for this use. Ensure local members and partner boards well briefed and updated on project. Hold pre-app discussion with NAC Planning Assess Protected Species/Habitat risk and other relevant constraints Formally agree programme for consents Advance programme of local & stakeholder Engagement.	NAC	Monthly
R19	Timescales / Procurement	Delays caused by procurement process.	Medium	High	Seek early agreement on appropriate procurement routes and early notification of contract opportunities. Partners to reach agreement on who procures what project elements.	Project Partners	Monthly
R20	Timescales / Contractual	Delays caused by contractor on site.	High	High	Identify appropriate construction contract to remove/ reduce risk of cost over-run. Appoint experienced contract Project Manager to oversee delivery of contract as client representative.	Contractor	Monthly

AYRSHIRE GROWTH DEAL RISK REGISTER: i3 Digital Processing Manufacturing Centre
Outline Business Case Stage, Updated July 2022

Risk Ref	Risk Type	Risk Description	Impact	Probability	Counter Measure	Owner	Date Reviewed
R21	Financial	Slippage / delay in the programme incurs additional costs.	High	High	Instruct appointed project team to address this within Risk Register. Select procurement route to ensure contract type has less risk for client.	Project Partners	Monthly
R22	Financial	Unforeseen project complexities that require additional funding.	High	Low	Provide for contingency. Provide Green Book compliant Optimism Bias allowances. Similar projects have been delivered elsewhere	Project Partners	Monthly
R23	Contractual / Political	Failure to deliver community benefits – training, employment	Medium	Medium	Incorporate appropriate community benefits into contract terms and resource appropriately.	NAC/NMIS	Monthly
R24	Operational	The project fails to attract enough of its target audience	High	Low	Recent research has established demand. Continue to review demand and business needs with Partners. Prepare project marketing particulars. Involve relevant business engagement partners. Appoint BD Manager. Ensure flexible design of space and building to ensure its robust over time. Continue to establish strategic relationship with national sector.	Project Partners	Monthly
R25	Financial / Operational	The project fails to generate sufficient income that was forecast	Medium	Low	Comparator analysis to be undertaken to identify appropriate charging mechanisms.		Monthly
R26	Operational	Operational issues with the new building or equipment	High	Low	Programme will allow for a testing phase for operations within building and for equipment. Instruct the preparation of an Operational Plan. Obtain maintenance contracts for equipment. Recruit appropriately qualified staff to operate equipment.	NMIS	Monthly
R27	Outputs & Outcomes	Failure to deliver anticipated outputs and outcomes.	High	Medium	Ensure BC addresses sensitivity of outcomes. Prepare a clear Evaluation & Monitoring Framework	NAC	Monthly

AYRSHIRE GROWTH DEAL RISK REGISTER: i3 Digital Processing Manufacturing Centre
Outline Business Case Stage, Updated July 2022

Risk Ref	Risk Type	Risk Description	Impact	Probability	Counter Measure	Owner	Date Reviewed
R28	External	BREXIT has a detrimental impact on the project, including the overall cost of the project and potential delays eg cost of and timescale for delivery of specific materials.	Medium	High	Analyse other tender information and issues experienced by others and incorporate allowances within risk register, programme and budget. Review likely impact.	Project Partners	Monthly
R29	Outputs & Outcomes	The project fails to achieve more inclusive growth and/or reduce poverty by increasing the income of people in deprived areas or protected characteristic groups	High	Medium	Prepare overall strategy for achieving inclusive growth.	NAC	Review Monthly
R30	Reputational	Phase 0 is not successful	High	Low	Phase 0 launched. Demand Survey identified interest	Project Partners	Review Monthly
R31	Outputs and Outcomes	Phase 1 cannot be located within the existing business premises	Medium	Low	Business has now purchase building and land. UoS to agree lease.	UoS	Review Monthly
R32	Financial	Lack of funding to operate Phase 1	Medium	Medium	Capital costs mostly available. Revenue costs part available to commence Phase 1.	Project Partners	Review Monthly
R33	Financial	Cost over-runs to Phase 1	Medium	Medium	Outline costs provided from consultant for refurbishment. Estimated costs provided for equipment	Project Partners	Review Monthly
R34	Operational	Lack of interest in staff posts for Phase 1	Medium	Medium	Posts to be widely promoted	Project Partners	Review Monthly
R35	Operational/Reputational	Closure of Phase 1 and no progress to Phase 2	High	Medium	Ongoing monitoring and promotion of phase 1 facility	Project Partners	Review Monthly
R36	Financial	Insufficient funding secured to progress to Phase 2	High	Medium	Partners actively seeking funding from Community Renewal Fund, North Ayrshire Ventures Trust, Nuclear Decommissioning Authority.	Project Partners	Review Monthly

AYRSHIRE GROWTH DEAL RISK REGISTER: i3 Digital Processing Manufacturing Centre Outline Business Case Stage, Updated July 2022							
Risk Ref	Risk Type	Risk Description	Impact	Probability	Counter Measure	Owner	Date Reviewed
R37	Financial	Project delays threaten funding awards.			Keep funders updated on progress and flag any issues to them as early as possible.	Project Partners	Review Monthly

APPENDIX F: INCLUSIVE GROWTH HEAT MAP

Ayrshire Growth Deal Project Name	Regional Drivers to Inclusive Growth
-----------------------------------	--------------------------------------

Digital Process Manufacturing Centre, Full Business Case, Phase 1 – V0.3

	Intermediate & Advanced Skills	Local Jobs	Health	Basic Digital Skills	Soft & Basic Skills (work-readiness)	Business Support (non-financial)	Childcare	Sustainable Working Population	Structure of Economy (Sectors/Industries)	Advanced Digital Skills/Innovation	Access to Finance	Business Premises	Digital Connectivity	Transport (people to jobs)	Housing	Transport (goods to market)	Inward Investment
Spaceport Infrastructure																	
Aerospace & Space Innovation Centre (ASIC) inc Visitor/STEM Engagement Hub																	
Prestwick Enabling Infrastructure - Roads																	
Prestwick Commercial Workspace & Infrastructure																	
i3 Flexible Space																	
i3 DPMC																	
Industrial Marine Science and Environmental Centre (IMSE)																	
The Great Harbour, Irvine Harbourside-Ardeer																	
Marine Tourism																	
Hunterston Strategic Development Area																	
HALO Kilmarnock																	
Ayrshire Engineering Park (Moorfield)																	
Ayrshire Manufacturing Investment Corridor (AMIC)																	
National Energy Research Demonstrator (NERD)																	
Digital Subsea Cable																	
Digital Infrastructure																	
Working for a Healthy Economy																	
Ayrshire Skills Investment Fund																	
Community Wealth Building																	
Regional Transport Appraisal																	

APPENDIX G: AGD PROJECT LINKS

Project Link	What is the Link?	Key Actions to Maximise Link	Expected benefits of the link	Targets
--------------	-------------------	------------------------------	-------------------------------	---------

Digital Process Manufacturing Centre, Full Business Case, Phase 1 – V0.3

Digital Processing Manufacturing Centre, i3	The DPMC at i3 will provide a unique facility for processing manufacturing sector companies to improve their productivity and modernise their processes through digital automation. This will be linked to the i3 Flexible space that will be provided mainly around the proposed location of the DPMC to create a cluster and accommodate business opportunities arising from the DPMC project eg business incubation units.	<ul style="list-style-type: none"> Dialogue required across AGD projects to established differentiation between projects, complementarity opportunities and wider understanding of partner roles in each project (eg NMIS, University of Strathclyde, Ayrshire College) 	<ul style="list-style-type: none"> Creation of cluster area at i3 with DPMC and business space that complements each other and accommodates spin off opportunities from the DPMC facility being located at Irvine. Opportunities for referral from DPMC to more specialised F&D facility at AMIC 	TBC as project develops
Project Link	What is the Link?	Key Actions to Maximise Link	Expected benefits of the link	Targets
Digital Infrastructure	This project is seeking £3m to ensure Ayrshire has the digital infrastructure in place which is critical to the region's future growth. By improving connectivity, local businesses and investors will not be restricted from using robotics or digital programmes which require excellent connectivity connections.	<ul style="list-style-type: none"> Ensure attendance of Officer representing DPMC at relevant working group meetings. 	<ul style="list-style-type: none"> Information sharing and opportunities for joint working. Ensuring i3 connectivity requirements, including that of DPMC partner NMIS, have high visibility as part of the Digital Infrastructure project. 	TBC as project develops
Project Link	What is the Link?	Key Actions to Maximise Link	Expected benefits of the link	Targets
Fibre Optic Subsea Cable	The project seeking £11m of funding required towards the cable and associated infrastructure to ensure Ayrshire has the fastest possible connection to the global digital network. There are opportunities for a fibre optic cable to land at Irvine and this would have the potential to make Ayrshire a globally connected region capable of delivering services to a level equivalent to anywhere in the world. This will help attract and be of benefit to new businesses occupying flexible space at i3 and for the DPMC project.	<ul style="list-style-type: none"> Ensure attendance of Officer representing Flex DPMC at relevant working group meetings 	<ul style="list-style-type: none"> Information sharing and opportunities for joint working. Ensuring i3 connectivity requirements, including that of DPMC partner NMIS, have high visibility as part of the Subsea Cable project. Identification of related investment opportunities for i3 e.g. data centres. 	TBC as project develops
Project Link	What is the Link?	Key Actions to Maximise the Link	Expected Benefits of the Link	Targets

Ayrshire Skills Investment Fund	The Ayrshire Skills Investment Fund seeks £3.5m for the establishment of a responsive skills fund to drive Inclusive Growth. The fund can help support people on the programme to develop skills. The Ayrshire Skills Investment Fund will add flexibility and responsiveness to the skills system to address related i3/DPMC industry needs and can also ensure that disadvantaged sectors of the community have access to career opportunities through the i3/DPMC AGD projects	<ul style="list-style-type: none"> • Ensure attendance of Officer representing Flex Space/DPMC at relevant working group meetings • Joint discussions with local Colleges to ensure a collaborative approach • Sharing of information regarding skills gaps identified through business engagement 	<ul style="list-style-type: none"> • Direct link to skills training that is not currently available • Support to prepare those out of labour market to new jobs • Achievement of key outcome to raise skills levels within the local area 	TBC as project develops
Project Link	What is the Link?	Key Actions to Maximise the Link	Expected Benefits of the Link	Targets
AMIC	With Links to NMIS the AMIC centre will provide pilot plant facilities to allow F&D manufactures to test and development new production and manufacturing practices. While the DPMC at i3 will provide a unique facility for processing manufacturing sector companies to improve their productivity and modernise their processes through digital automation. AMIC and DPMC will complement the manufacturing industry in general across Ayrshire and the south west of Scotland while focusing on different areas of industry. The Development of Advanced manufacturing space as part of AMIC, will attract inward investment to the Ayrshire Region.	<ul style="list-style-type: none"> • Set up referral routes from the project • Working group oversees both projects and responsible for integration. • Sharing of information and joint discussions with NMIS to ensure a collaborative approach and avoid duplication. • Sharing of learnings and studies which would benefit or transfer across sub sectors to benefit the wider manufacturing sector in Ayrshire. 	<ul style="list-style-type: none"> • Sharing of information and resource. • Collaboration on projects which can be developed with mass benefit to the wider manufacturing sector in Ayrshire. • Provision of flexible space in both North and East Ayrshire which will drive inward investment to the area providing greater choice to investors and collaborative working across the councils. 	TBC as project develops

Ayrshire Growth Deal Project Name	Spaceport Infrastructure	Enabling Infrastructure - Roads	Commercial Infrastructure & Workspace	Aerospace and Space Innovation Centre (ASIC) inc Visitor/STEM	i3 Advanced Manufacturing Space & Digital Processing	HALO Kilmarnock	Ayrshire Engineering Park (Moorfield)	Ayrshire Manufacturing Investment Corridor (AMIC)	National Energy Research Demonstrator (NERD)	Hunterston Strategic Development Area	Marine Tourism	Industrial Marine Science and Environmental Centre (IMSE)	The Great Harbour, Irvine Harbourside - Ardeer	Digital Subsea Cable	Digital Infrastructure	Working for a Healthy Economy	Ayrshire Skills Investment Fund	Community Wealth Building
Spaceport Infrastructure		3	3	3	1	1	1	1	0	0	0	0	0	2	3	2	2	2
Prestwick Enabling Infrastructure - Roads	3		3	3	0	0	0	0	0	0	1	0	0	1	1	1	1	2
Prestwick Commercial Workspace & Infrastructure	3	3		3	2	1	1	1	1	1	0	0	0	2	3	2	2	2
Aerospace & Space Innovation Centre (ASIC) inc Visitor/STEM Engagement Hub	3	3	3		1	1	1	1	1	1	0	0	0	2	3	3	3	2
i3 Advanced Manufacturing Space & Digital Processing Manufacturing Centre	1	0	2	1		1	2	2	1	2	0	0	0	2	3	2	2	2
HALO Kilmarnock	1	0	1	1	1		1	1	1	0	0	0	0	2	2	2	2	2
Ayrshire Engineering Park, Moorfield	1	0	1	1	2	1		2	1	0	0	0	0	2	3	2	2	2
Ayrshire Manufacturing Investment Corridor (AMIC)	1	0	1	1	2	1	2		1	1	0	0	0	2	2	2	2	2
National Energy Research Demonstrator (NERD)	0	0	1	1	1	1	1	1		1	0	1	0	2	3	2	2	2
Hunterston Strategic Development Area	0	0	1	1	2	0	0	1	1		1	2	1	2	3	2	2	2
Marine Tourism	0	1	0	0	0	0	0	0	0	1		2	2	2	2	2	2	2
Industrial Marine Science and Environmental Centre (IMSE)	0	0	0	0	0	0	0	0	1	2	2		1	2	3	2	2	2
The Great Harbour, Irvine Harbourside - Ardeer	0	0	0	0	0	0	0	0	0	1	2	1		2	2	2	2	2
Digital Subsea Cable	2	1	2	2	2	2	2	2	2	2	2	2	2		3	2	2	2
Digital Infrastructure	3	1	3	3	3	2	3	2	3	3	2	3	2	3		2	2	2
Working for a Healthy Economy	2	1	2	3	2	2	2	2	2	2	2	2	2	2			3	3
Ayrshire Skills Investment Fund	2	1	2	3	2	2	2	2	2	2	2	2	2	2	2	3		3
Community Wealth Building	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	
Relationship	No. of Points																	
Primary Relationship (Absolutely Contingent)	3																	
Secondary Relationship (Strong obvious link)	2																	
Tertiary Relationship (Weak link)	1																	
No Relationship	0																	

Digital Process Manufacturing Centre, Full Business Case, Phase 1 – V0.3

APPENDIX H: LONG LIST OPTIONS APPRAISAL

Option	Description	Appraisal	Score
1	Do Nothing	No investment objectives or critical success factors achieved.	0
2	NMIS undertaking the DPMC at a reduced scope	This option satisfied all but one of the investment objectives and partially met the investment objective of establishing the facility, as it would be of a reduced scope within an existing NMIS facility. Whilst this option satisfied four out of seven critical success factors, it would fail to increase capabilities in Ayrshire, as the project would not be located there, it would not ensure that the project is affordable using AGD sources as the AGD fund would not apply and as it would not be delivered in partnership with North Ayrshire Council and Ayrshire College. This option also mainly satisfied the other criteria apart from only partially in relation to the impact for industry and jobs created.	39 Short-listed
3	NMIS own/operate DPMC, located in Irvine	This option satisfied all of the investment objectives and nearly all of the critical success factors, apart from ensuring the project is affordable matching AGD sources with other sources, which it partially met due to the challenge to find additional sources of funds.	47 Short-listed PREFERRED
4	Ayrshire College own/operate DPMC with a reduced scope	This was discounted as an option, as the College has insufficient experience to operate such a centre. Whilst this option would satisfy the investment objective of building a training and skills programme, it only partially meets the objective of establishing collaborations and supply chains and would fail to establish the DPMC with operational readiness and a national research agenda.	28
5	North Ayrshire Council own DPMC and tender for an operator	This was discounted as an option as NAC has insufficient experience to operate an innovation centre and would fail or partially satisfy the criteria, objectives and critical success factors.	25

6	Delivery through a trade association	This was discounted as an option, on the basis that it would not drive innovation or research or create the required positive impact for industry. Whilst there was less doubt around risk and cost and collaboration and supply chains, this option failed or partially satisfied the other criteria, success factors and objectives.	17
7	CPI own/operate DPMC	This was discounted as an option as it is not a strategic propriety for CPI to lead on the development of the DPMC but will be a strategic partner. In this respect the option failed on the length of time and risk to deliver and the combination of partners.	38
8	Locate DPMC at another location	Whilst this option would satisfy all of the investment objectives, and a number of the critical success factors it would not be in line with key partners strategic objectives to establish a centre in North Ayrshire. Whilst it would satisfy the impact for industry and jobs created it there would be challenges around funding as the AGD could not support it.	35
9	Deliver DPMC Phase 1 only	This option was carried forward to the shortlist on the basis that this option satisfied all of the critical success factors and other criteria and partially met all of the criteria for the investment objectives, as it would only deliver Phase 1.	47 Short-listed

APPENDIX J: COMMUNITY BENEFITS STATEMENT



AGD Business Cases – Regional Community Benefits Statement

Community Benefits

Community Benefits have been a key component of public procurement policy and practice in Scotland for more than ten years.

To embed best practice and drive public bodies to consider Community Benefits clauses in procurement, The Procurement Reform (Scotland) Act 2014 established a national legislative framework for sustainable public procurement that supports Scotland's economic growth through improved procurement practice. The Reform Act requires public bodies, including Ayrshire Growth Deal (AGD) Partners, to consider how their procurement activity can improve the economic, social and environmental wellbeing of their communities.

Community Benefits are one of a range of social and environmental requirements that can be included in public contracts, contributing to national outcomes on sustainability including, but not limited to, employment, learning, skills, supply chain development and community engagement.

Contractors, suppliers and Service Providers appointed through AGD projects must demonstrate their organisations' commitment to providing Community Benefits within Ayrshire, over and above their obligations to deliver on the core purpose of a contract.

In accordance with guidance of the Reform Act and always in a relevant and proportionate manner, applicable appointments, through AGD projects, which require procurement activity, will be subject to Community Benefits requirements.

Community Benefits Themes

Through their separate procurement activities and where possible, AGD Partners are committed to assisting both young and unemployed people by encouraging access to quality sustainable employment and providing skills and training opportunities. Organisations appointed to AGD projects must therefore be able to demonstrate their commitment to integrate trainees and long-term unemployed persons into the labour market, without distinction to sex, marital status, race, ethnic origin or political or religious beliefs.

AGD projects will also bring together an extensive range of experienced Professionals who, with minimal sacrifice of time, could provide useful learning and knowledge exchange opportunities for various groups of people in our Ayrshire communities and over a wide range of subject areas and expertise.

Digital Process Manufacturing Centre, Full Business Case, Phase 1 – V0.3

Organisations appointed to AGD projects must therefore be able to demonstrate their commitment in providing learning opportunities across the wider Ayrshire community.

Community Benefits pledges from AGD projects should also have a focus on supporting and developing Ayrshire's existing business base and building on this with the aim of increasing the number of new business start-ups and growing sustainable businesses. The long-term sustainable development of Ayrshire's SME business base is vital and AGD Partners recognise the need to support the development of the SME sector through the use of a procurement approach which maximises SME exposure to procurement opportunities.

As such and through the procurement phases of any AGD project, contracting organisations will be asked to consider the following objectives when committing to the delivery of Community Benefits:

- Improving Education and Skills. For example, creation of apprenticeships or delivering knowledge exchange and presentations in schools or community groups.
- Improving Local Employability. For example, creation of new jobs, recruitment of the long-term unemployed, disadvantaged or young people.
- Work Experience Placements/Programmes. For example, providing work experience placements to those in education.
- Delivering Training and Development in the Community. For example, mentoring - private sector suppliers can offer support, normally as part of their CSR activity, where they can offer training and guidance to local organisations and individuals.
- Community Consultation - giving the local community an opportunity to express an opinion and possibly influence the design and delivery of a project or service in an area.
- Enhancing & Improving Local Community and Environmental Projects. For example, providing volunteers or donations to local initiatives.
- Sponsorship and Charity Work
- Supply Chain, Supported Business, Third Sector and Voluntary Initiatives. For example, offering Small and Medium Enterprises and Voluntary Sector organisations opportunities to provide goods, works and/or services as part of a contract.

Tracking & Reporting Community Benefits

Organisations who are successful in being awarded a contract through an AGD project will have their Community Benefits pledges evaluated on an ongoing basis, throughout the duration of their contract and through each of the AGD Partners' contract management procedures, using a shared Community Benefits tracking system. Along with providing an excellent, flexible and accessible record of business information for those organisations appointed to Growth Deal projects, the AGD Partners' shared, online Community Benefits Tracker will ensure a consistent approach is applied to the monitoring of Community Benefits pledged through AGD procurement.

APPENDIX L: BENEFITS REALISATION LOGIC CHAIN

Project Inputs (resources)	Project Activities (what you do)	Project Outputs (what is produced)	Project Outcomes (change expected as result of outputs/activities)	Programme Objective
AGD £6million: UK Govt £5m NAC £1m Additional Funding: to be confirmed.	<ul style="list-style-type: none"> Development of partnership and business cases to deliver DPMC project in phases. Site investigations Land assembly Funding bids Development of project specifications and evidence Submission of planning applications Site remediation work New link/access roads developed Construction of SUDS/sewerage systems Improved junctions to enhance access to sites New junctions to open up access to sites Construction of DPMC in phases. 	<ul style="list-style-type: none"> Total Area reclaimed, (re)developed or assembled (20 Ha) as a result of overall i3 AGD projects Total Area of Opportunity Sites (20 Ha) 649m2 of R&D business space created (Phase 1) 1,100m2 of new R&D business space created (Phase 2) Creation of partnerships and supply chains Development of R&D agenda Training and skills programmes Private businesses supported Individuals supported into work Engagement with schools and colleges Jobs safeguarded Wide range of employment opportunities Improved pedestrian linkages Vacant and Derelict Land brought back into use/removed from SVDL Register (20 ha) 	<ul style="list-style-type: none"> Creation of a key industrial and business cluster Securing an important academic anchor institution in the area Improved perception and market sentiment in Ayrshire's advance manufacturing and digital offer. Increased levels of investment, including FDI Uplift in commercial rental/sales values (£) Increased employment and development of skills in local workforce Increased GVA Reduced levels of deprivation in local areas Widening of labour market Improved business productivity Strengthening key business clusters Businesses attracted to the locality and increase in inward investment Reduction in level of vacant and derelict land 18-35 People from Employability & Skills Programme Accessing Jobs 	<ul style="list-style-type: none"> Increase employment opportunities Increase in GVA across region Lever in private sector investment Spread the benefits of economic growth across region, ensuring deprived areas benefit from this growth. Job market entrants and low skilled workers increasing soft and basic skills through provision of local jobs Attract skilled workers to the region and support local people entering skilled employment opportunities

APPENDIX M: EQUALITY IMPACT ASSESSMENT

Ayrshire Growth Deal Equality Impact Assessment including Fairer Scotland Duty

Equality Impact Assessment is a legal requirement under the Public Sector Duty to promote equality of the Equality Act 2010. Separate guidance has been developed on the Equality Impact Assessment's which will guide you through the process and is available to view here: <https://www.equalityhumanrights.com/en/publication-download/assessing-impact-and-public-sector-equality-duty-guide-public-authorities/>

The Fairer Scotland Duty ('the Duty'), Part 1 of the Equality Act 2010, came into force in Scotland from 1 April 2018. It places a legal responsibility on Councils to actively consider ('pay due regard to') how we can reduce inequalities of outcome caused by socio-economic disadvantage, when making strategic decisions. [Interim Guidance for Public Bodies](#) in respect of the Duty was published by the Scottish Government in March 2018.

Please note that the term 'project' is used throughout and applies to policies, strategies, provisions, criteria, functions, practices, budget savings and activities, including the delivery of services.

If you require assistance please contact:

East Ayrshire Council	Alyia Zaheed	alyia.zaheed@east-ayrshire.gov.uk
North Ayrshire Council	Andrew Hale	andrewhale@north-ayrshire.gov.uk
South Ayrshire Council	Geraldine McGivern	geraldine.McGivern@south-ayrshire.gov.uk

Section One: Project Details*

Name of Project	I3 Digital Processing Manufacturing Centre
Lead Officer (Name/Position)	Marnie Ritchie, Manager, Growth and Investment
Support Team (Names/Positions)	Growth and Investment Team, North Ayrshire Council

Digital Process Manufacturing Centre, Full Business Case, Phase 1 – V0.3

including Critical Friend	
What are the main aims of the project?	To create a Digital Processing Manufacturing Centre at i3, in partnership with NMIS and CPI, creating an overall cluster of research, innovation, accommodation and services for industry and business focussed around the processing industries. The project will be delivered in phases with Phase 0 as an online facility, Phase 1 as a pilot in an existing building and Phase 2 in a purpose-built building. This will complement the delivery of approximately 9,000m2 of flexible advanced manufacturing space at i3 over a number of phases, to meet market demand in an area of market failure.
What are the intended outcomes of the project	The intended outcomes of the project are the delivery of much needed training to adapt businesses to digital technology, improving their productivity and innovation, research and development around a new anchor institution at i3, new jobs and construction jobs, supported SMEs, additional GVA, access to related employability and skills programmes for local people and removal of sites from the vacant and derelict land register.

Section Two: What are the Likely Impacts of the Project?

Will the project impact upon all three Ayrshire councils areas or a specific council area and/or particular groups within the population (please specify the equality groups)	The project has the potential to impact on all three Ayrshire Council areas and beyond becoming a national centre for digital processing. It has the potential to positively impact on particular groups in terms of opportunities for employment and training for disadvantaged people or people within Protected Characteristic groups.
---	---

Consider the 'Three Key Needs' of the Equality Duty

Which aspects of the project eliminate unlawful discrimination, harassment and victimisation?

The project is about creating a digital hub, therefore due to the nature of the project, it is not considered that this key need is relevant to the project.

Which aspects of the project advance equality of opportunity between people who share a relevant protected characteristic and those who do not?

- The design of the project space will be modern and fully accessible, complying with EA 2010 standards and enabling potential employees or trainees that are mobility impaired or disabled to access the buildings and the surrounding space.
- The procurement process for the Phase 2 building will require construction companies to provide opportunities for trainees and job seekers from disadvantaged or Protected Characteristic groups.
- It is intended that the project will seek to improve active travel links to the site, to make the location more accessible to people without access to a car and who may be reliant on affordable and accessible public transport services.

Which aspect of the project foster good relations between people who share a protected characteristic and those who do not? (Does it tackle prejudice and promote a better understanding of equality issues?)

The design of the buildings and job/skills/training opportunities for protected characteristic groups will help tackle prejudice and promote a better understanding of equality issues, through the integration of these requirements as standard practice.

Have any cross-cutting impacts been identified from other Council Services or Partner Agencies? (Multiple discrimination or accumulated effects of multiple proposals on a protected characteristic group)

No cross-cutting impacts have been identified at this stage.

Island Proofing

Island Proofing is about considering the particular needs and circumstances of island communities when public sector organisations exercise their functions and make decisions. This process includes a range of issues such as access to services, digital connectivity, employment and access to education; transport and access to goods and services.

The project is focussed on a specific location at i3 Irvine Enterprise Area. It is not considered that the particular needs and circumstances of island communities would be detrimentally affected by this particular project.

Considering the following Protected Characteristics and themes, what likely impacts or issues does the project have for the group or community?

Please outline evidence in relation to impacts identified. List any likely positive and/or negative impacts. If negative impacts are identified, can these be mitigated or lessened?

If you require further information in relation to evidence, the [Equality Evidence Finder](#) brings together the latest statistics and research for Scotland across different themes for age, disability, ethnicity, gender, religion, sexual orientation, socio-economic status and transgender status.

The Equality Evidence Finder is updated monthly with a summary of the key official statistics, social research and National Performance Framework equality analysis. Links to further datasets, statistics and research are provided to help find the full range of available equality evidence for Scotland.

Digital Process Manufacturing Centre, Full Business Case, Phase 1 – V0.3

Protected Characteristics	Evidence	Positive/Negative Impacts	Mitigating Factors
Age: Issues relating to different age groups e.g. older people or children and young people	Young people are particularly excluded from manufacturing growth areas.		
Disability: Issues relating to disabled people	Limited access to employment opportunities due to limited scope to work in ageing industrial buildings and limited access to transport to i3.		
Gender Reassignment – Trans/Transgender: Issues relating to people who have proposed, started or completed a process to change his or her sex	No issues identified.		
Marriage and Civil Partnership: Issues relating to people who are married or are in a civil partnership	No issues identified.		
Pregnancy and Maternity: Issues relating to woman who are pregnant and/or on maternity leave	No issues identified.		

Race: Issues relating to people from different racial groups,(BME) ethnic minorities, including Gypsy/Travellers	No issues identified.		
Religion or Belief: Issues relating to a person's religion or belief (including non-belief)	No issues identified.		
Sex: Gender identity: Issues specific to women and men/or girls and boys	Women are particularly excluded from manufacturing growth areas.		
Sexual Orientation: Issues relating to a person's sexual orientation i.e. LGBT+, lesbian, gay, bi-sexual, heterosexual/straight	No issues identified.		
<u>Children's Rights</u> Issues and impacts affecting children's rights* *for more information please email – andrewhale@north-ayrshire.gov.uk	No issues identified.		

Health Issues and impacts affecting people's health	No issues identified.		
Human Rights: Issues and impacts affecting people's human rights such as being treated with dignity and respect, the right to education, the right to respect for private and family life, and the right to free elections. Further information can be found here	No issues identified.		

Fairer Scotland Duty – Scio Economic Disadvantage			
	Evidence	Positive/Negative Impacts	Mitigating Factors
Low Income/Income Poverty: Issues: cannot afford to maintain regular payments such as bills, food and clothing.			
Low and/or no wealth: Issues: enough money to meet basic living costs and pay bills but have no savings to deal with any unexpected spends and no provision for the future			
Material Deprivation: Issues: being unable to access basic goods and services i.e. financial products like life insurance, repair/replace broken electrical goods, warm home, leisure/hobbies			
Area Deprivation: Issues: where you live (rural areas), where you work (accessibility of transport)	Accessibility and affordability of transport to i3.	Access to I3 Enterprise Area is currently limited by public transport.	Action to progress discussions with public transport provider to consider improved services.

Section Three: Evidence Used in Developing the Project

Involvement and Consultation In assessing the impact(s) set out above what evidence has been collected from involvement, engagement or consultation? Who did you involve, when and how ?	
Data and Research In assessing the impact set out above what evidence has been collected from research or other data. Please specify <i>what</i> research was carried out or data collected, <i>when</i> and <i>how</i> this was done.	
Partners data and research In assessing the impact(s) set out in Section 2 what evidence has been provided by partners? Please specify partners	
Gaps and Uncertainties Have you identified any gaps or uncertainties in your understanding of the issues or impacts that need to be explored further?	

Section Four: Detailed Action Plan to address identified gaps in:

- a) evidence and
- b) to mitigate negative impact

No.	Action	Responsible Officer(s)	Timescale
1	Ensure the proposed build space and general project location is fully accessible and where appropriate, compliant with EA2010.	Project Designers	Over the course of the various phases of the project.
2	Progress discussions with public transport provider	AGD Project Lead	December 2022
3	Develop initiatives with colleagues and other Council teams to ensure young people and women will benefit from the project.	AGD Project Lead	Over the course of the various phases of the project.

Note: Please add more rows as required.

Section Five - Performance monitoring and reporting

Considering the project as a whole, including its equality and diversity implications:

When is the project intended to come into effect?	The project has started and will be delivered in a series of phases.
When will the project be reviewed?	At various Gateway Stages. Timescales for Gateway 1 require to be confirmed between partners.
Which Panel will have oversight of the project?	The Project Board and Partnership of NMIS, NAC and CPI and particular Gateway Review meetings. Following which the project will be reported to AGD Update Meeting involving NAC's Chief Executive, Directors and Heads of Service.

Section 6

Ayrshire Growth Deal



Summary Equality Impact Assessment Implications & Mitigating Actions

Name of Project:

Name of Project Lead.....

Email of Project Lead.....

Date of Assessment.....

This project will assist or inhibit the Council's ability to eliminate discrimination; advance equality of opportunity; and foster good relations as follows:

Please see information contained above.

1. Summary of project aims
2. Summary of how the project will eliminate discrimination
3. Summary of how the project will advance equality of opportunity
4. Summary of how the project will foster good relations
5. Summary of how the project considers Socio-Economic Disadvantage (Fairer Scotland Duty)
6. Summary of how the project considers the needs of island communities
7. Summary of Key Action to Mitigate Negative Impacts

a. Actions and Timescales

Project Lead: Marnie Ritchie, Regeneration Manager, Growth and Investment

Signed: 14 July 2021

APPENDIX N: CARBON ANALYSIS

Item	Project Owner Response
1. Project Name	i3 Digital Processing Manufacturing Centre
2. Deal Region	Ayrshire
3. Brief Description of Project	The creation of a Digital Laboratory (Digilab) at i3, Irvine Enterprise Area to provide a centre of excellence for digital automation
4. Expected Carbon Emissions Impact CONTROL Category (1-5)	3 - Cap + then Zero
5. Expected Carbon Emissions Impact INFLUENCE Category (A-C)	A
6. Justification of Expected Carbon Emissions Impact Category e.g. a short narrative outlining the key carbon emission sources and their relationship to capital and operational net zero following the Deals Carbon Emissions Impact Categorisation Process.	Carbon emissions are anticipated through the construction of the facility, related access roads, parking and landscaping. The design specification will consider use of sustainably and locally sourced materials and will consider measures to reduce carbon at the operational stage, including solar panels, heat pumps, EV charging points, permeable surfaces, incorporation of new active travel routes, suds ponds. Tenders will be partly assessed on carbon impact in terms of source of materials and use of local trades.
7. Could the Carbon Emissions Impact Category be improved? e.g. from Category 4B to Category 3A	
8. Could the carbon performance of the project be improved? e.g. reducing emissions further, achieving net zero faster.	The project team will seek to explore this further as the project develops.
9. How will carbon be managed? e.g. through PAS 2080: Carbon Management in Infrastructure for infrastructure projects or the RICS Whole Life-Cycle Carbon Professional Statement for buildings projects	PAS 2080
10. What other carbon savings are expected to result from the project? e.g. wider carbon savings across the economy resulting from project output	The project will support businesses across Ayrshire, Scotland and the UK, to adopt digital technologies within their manufacturing processes, which in turn will have a positive impact on reducing their carbon emissions. By offering demonstrations, it will also ensure businesses make informed choices on equipment purchases, reducing the chance of waste.
<p>A - Leads to wider carbon emissions reductions; B - Will have a negligible effect on wider carbon emissions; or, C - Leads to an increase in wider carbon emissions</p>	

APPENDIX O: PMO MODELLING

PMO Economic Modelling, Phase 1

The Economic case at a Scotland level (as required by Scottish Ministers) is presented in the table above. The Present value of benefits and costs are shown for each option and a Net Present Value and Benefit Cost Ratio (BCR) are calculated. The BCR shows vary between the options chosen to be assessed.

The details are as follows:

The Preferred Option provides a Benefits Cost Ratio (BCR) of £1.29:£1. Which potentially generates 19 direct and indirect jobs, 9 construction jobs and an estimated total GVA (25 year NPV) of approximately £3.4m. Sensitivity testing of the Preferred Option was undertaken, with variations in costs (increase of 20%) and in the extension of the occupancy of the facility beyond the original 5 year fix (increase to 23 year occupancy). The impact upon the BCR was significant with increased costs reducing the BCR to £1.07:£1. Whilst increased occupancy raised the BCR to £2.29:£1. In all three cases the Preferred Option provided a positive result.

For each Option modelled spatial adjustment analysis is undertaken. This uses standard HMT Green Book techniques (See HMT Green Book, Annex A3) to adjust the results to account for the local income distribution compared with the country as a whole. This is in line with the Scottish Government view of the importance of Inclusive Growth (after the spatial distributive sensitivity analysis is undertaken).

In addition, using a methodology developed by Scottish Government Economists, further analysis has been undertaken to examine the likely impacts at a UK level (as required by UK government). UK guidance is specific about the limited extent to which any employment impacts should be treated as additional at the UK level and so the approach looks at the proportion of the Scottish level BCR which remains after applying UK treatment of jobs.

This approach combines two components – an adjustment for the relative productivity of the jobs created, taking into account the economic profile of the area and a more formal representation of the spatial impact. Combining these two factors together gives a “UKG Adjustment Factor” which is compared with the “Scottish BCR Factor” the fraction of the Scottish level impact that is required to result in a BCR of 1, termed β .

The Preferred Option and its sensitivity test was further reviewed through the above described spatial adjustment factors. The outcome was that the Scottish BCR for the Preferred Option stands at £1.78:£1, with a sensitivity testing producing a range of £1.93:£1 to £1.40:£1.

However looking deeper in to the outcomes from the spatial analysis it is clear that the Preferred Option including when tested, provides results that are relatively poor. First against productivity adjustment factors all three scenarios do not provide Value for Money (VfM). Second when comparing Overall UK adjustment factors with Scottish BCR factors (+1) only in the case of increased occupancy does the Preferred Option potentially deliver a positive impact through “better” jobs weighted in light of distributional impacts. This means that encouragement should be given to ensuring the occupancy of the invested facility goes beyond the fixed 5 years.

The Alternative Option when modelled fared no better than the Preferred Option.

Digital Process Manufacturing Centre, Full Business Case, Phase 1 – V0.3

Both Alternative Options performed poorly, with the first Alternative increasing the Capital Expenditure to £15.1m and floorspace to 1396 sqm (for Option 3 NMIS in Irvine Phase 1&2). The second Alternative proposes increasing the Capital Expenditure to £6m and the floorspace to 640 sqm (for Option NAC Operate Phase 1 only). The result is that the both cases generated very poor BCRs at £0.78:£1 and £0.77:£1 respectively.

However once spatial adjustment analysis had been undertaken the final Scottish BCRs for both Alternative Options appear to outperform the Preferred Option with £2.28:£1 and £2.43:£1 respectively. This may be due to the fact that the scale and proportionality of the investment compared to the floorspace created is much greater than that proposed for the Preferred Option, which is more modest (e.g. £1.6m investment for 516 sqm of floorspace)

In addition and similar to the Preferred Option, it was found that when looking deeper at the outcomes of the modelling, it is noted that neither Alternative Options delivered VfM nor provide a positive outcome (e.g. in providing “better” jobs post distributional impacts) when comparing with the Overall UK adjustment factor with the Scottish BCR factor.

So when viewing the options in the round the Preferred Option delivers proportionally a more effective outcome that demonstrates clear benefits at minimum costs. This is still the case when tested against sensitivity elements such as increased costs and increased occupancy (when viewed solely at the BCR). Out of all of the options and sensitivity testing undertaken, it was found that only in the case of the increased occupancy testing of the Preferred Option was it possible to demonstrate VfM. In all other cases none of the options or testing scenarios delivered a positive outcome e.g. “better” jobs weighted following distributional impacts.

With the above in mind, it is clear that the best proposal in the round is the Preferred Option. However this provides limited benefits and there are questions over all of the Options modelled in terms of the added beneficial value they will deliver.

It is therefore important to consider the above findings against those produced by the Project Consultants, in order to understand the assumptions and options used in order to see if the economic outputs expected from the investment can be appropriately justified.

Option appraisal conclusion:

The key findings are as follows:

Option 1 – do nothing/do minimum/status quo

This option ranks fourth. It provides no development or build out.

Option 2 –Preferred Option.

This option ranks first in terms of BCR and third in Overall UKG adjustment Factors.

- Delivers 14 net jobs (Direct and Indirect)
- Delivers 9 construction jobs
- This option delivers £3.4m GVA (excluding construction) discounted over the next 25 years
- The GVA per head for the project is £65,366
- It provides a positive economic impact with an estimated Benefit Cost ratio of £1.29:£1

- After spatial adjustment, the estimated Benefit Cost ratio increases to £1.78:£1
- A distributional weight of 1.22 (d) > 1 shows a positive impact from the component
- A productivity adjustment factor > 1 SHOULD show a positive impact from the component. CURRENTLY $1.34 - 1$ is NOT > β (0.778) which means that VfM DOES NOT hold.
- As γ is NOT $\geq 1 + \beta$ (1.778) or $1.64(\gamma) - 1 = 0.64 \geq 0.778$ this CURRENTLY demonstrates that the proportional impact in productivity through "better" jobs weighted for distributional impacts is NOT sufficient to ensure a BCR > 1 under 100% displacement.

Alternative 1 (Option 3, NMIS in Irvine, Phase 1 & 2)

This option ranks second in terms of BCR and second in Overall UKG adjustment Factors.

- Delivers 39 net jobs (Direct and Indirect)
- Delivers 84 construction jobs
- This option delivers £18.2m GVA (excluding construction) discounted over the next 25 years
- The GVA per head for the project is £65,366
- It provides a positive economic impact with an estimated Benefit-Cost ratio of £0.78:£1
- After spatial adjustment, the estimated Benefit Cost ratio increases to £2.28:£1
- A distributional weight of 1.22 (d) > 1 shows a positive impact from the component
- A productivity adjustment factor > 1 SHOULD show a positive impact from the component. CURRENTLY $1.34 - 1$ is NOT > β (1.275) this means that VfM DOES NOT hold.
- As γ is NOT $\geq 1 + \beta$ (2.275) or $1.64(\gamma) - 1 = 0.64 \geq 1.275$ this CURRENTLY demonstrates that the proportional impact in productivity through "better" jobs weighted for distributional impacts is NOT sufficient to ensure a BCR > 1 under 100% displacement.

Alternative 2 (NAC Operate, Phase 1 only)

This option ranks second.

- Delivers 18 net jobs (Direct and Indirect)
- Delivers 33 construction jobs
- This option delivers £7.2m GVA (excluding construction) discounted over the next 25 years
- The GVA per head for the project is £65,366
- It provides a positive economic impact with an estimated Benefit-Cost ratio of £0.77:£1
- After spatial adjustment, the estimated Benefit Cost ratio increases to £2.43:£1
- A distributional weight of 1.22 (d) > 1 shows a positive impact from the component
- A productivity adjustment factor > 1 SHOULD show a positive impact from the component. CURRENTLY $1.34 - 1$ is NOT > β (1.300) this means that VfM DOES NOT hold.
- As γ is NOT $\geq 1 + \beta$ (2.300) or $1.64(\gamma) - 1 = 0.64 \geq 1.3$ this CURRENTLY demonstrates that the proportional impact in productivity through "better" jobs weighted for distributional impacts is NOT sufficient to ensure a BCR > 1 under 100% displacement.

TECHNICAL DETAIL

Stage 1:

Local and Scottish impacts can be calculated as under 2003 Green Book and associated guidance (equivalent to local and regional impacts in current HMT Guidance). The Scotland level impacts are what is considered important for Scottish Ministers.

Stage 2:

To align the standard results with the Inclusive Growth approach within the Scottish Government's Economic Strategy it is recommended that a spatial distributive sensitivity analysis is undertaken.

The way to do this is as follows:

$$\text{Distributional Weight } d = \left[\frac{\text{Median earnings}^{\text{Scotland}}}{\text{Median earnings}_{\text{Area of impact}}} \right]^{1.3}$$

Where 1.3 is the value for the marginal distribution of income in the Green Book. This weight should be applied to the benefits of the scheme that accrue to the local area. It may be necessary to perform a more complicated calculation if there is a wider distribution of impacts:

$$\text{Distributional Weight } d = \sum_{i=1}^n \left[\frac{\text{Median earnings}_{\text{Scott and}}}{\text{Median earnings}_{\text{Area of impact } i}} \right]^{1.3} \cdot \alpha_i, \text{ where } \alpha_i \text{ is the proportion of impact in area of impact } i.$$

This should be reported, by being applied to the Net Present Value of Benefits of the project as a sensitivity.

Stage 3:

UK level impacts are important for UK Ministers and will need to reflect updated Green Book guidance, specifically the assumption of 100% displacement of labour demand effects. However, the suggested approach is to take into account the likely differential impacts in low and high unemployment areas.

The approach, that minimises the additional effort and calculations required, calculates the extent of UK level impacts by taking the Scotland level impacts and calculating what proportion of them remain after applying UKG guidance. To make this comparison simple, the fraction of the Scottish level impact that is required to result in a BCR of 1¹, termed β , is calculated. β is simply the inverse of the BCR at the Scotland level. If the BCR at the Scotland level is 2, then the fraction of the Scotland level BCR that is required is ½.

$$\beta = \frac{1}{BCR} = \frac{NPC}{NPB}$$

This is compared with a "UKG adjustment factor" that is calculated by looking at the productivity, spatial distribution and potentially, labour supply impacts of the intervention.

Note that the Scotland level impacts will already contain some degree of displacement.

Stage 4:

The next step is to determine if the area of impact is a low or high unemployment area. A reasonable way to do this is to compare the employment rate with the Scotland average.

A high employment area will take labour from the UK as a whole whereas a low employment area will take employment from the local area.

Productivity

Thus the productivity adjustment factor, p , is given by:

High employment area	Low employment area
$p = \frac{(g_x)}{(g_{UK})}$	$p = \frac{(g_x)}{(g_l)}$

¹ A BCR of 1 is used rather than accounting for the Marginal Social cost of public funds as it is argued that under the assumptions now explicit in the Green Book the MSCPF would be close to 1.

Where g = GVA/head and x is the project under consideration, and UK and l represent the UK and the local area respectively. Note that GVA/head is used in order to be able to calculate sector comparisons.

Spatial distribution

This follows the same approach as for Scotland but makes the comparison with UK median income per head;

$$\text{Distributional Weight } d = \sum_{i=1}^n \left[\frac{\text{Median earnings}_{\text{UK}}}{\text{Median earnings}_{\text{Area of impact } i}} \right]^{1.3} \cdot \alpha_i, \text{ where } \alpha_i \text{ is the proportion of impact in area of impact } i.$$

Stage 5

Combining the analysis and presenting the results

The overall adjustment factor, γ , is given by:

$$\gamma = (p) \cdot (d)$$

This should be compared with the inverse BCR or β parameter discussed above and the value for money condition is if:

$$VFM \text{ if } \gamma \geq 1 + \beta \text{ or } \gamma - 1 \geq \beta$$

STAGE 1 - Scotland Impacts - Standard Analysis as calculated before (traditional)						
Outcome	Short Listed Options					
	Option 1 Do nothing	Preferred Option (Option 3, Phase 1 Only)	Preferred (sensitivity check - 20% increase in costs)	Preferred (sensitivity check - increase in occupancy)	Alternative 1 (Option 3, NMIS in Irvine Ph 1 & 2)	Alternative 2 (NAC Operate, Phase 1 only)
Business space created	0	516	516	516	1336	640
Capital Expenditure	n/a	£1,660,000	£1,392,000	£1,660,000	£15,160,000	£6,000,000
Net Present Cost		£1,474,607	£1,763,523	£1,474,607	£12,835,326	£5,214,350
Direct Jobs	0	8	8	8	22	10
Indirect Jobs	0	6	4	4	17	8
Total Jobs	0	14	12	12	39	18
Construction jobs	0	9	11	9	84	33
Construction GVA	£0	£358,673	£430,407	£358,673	£3,121,371	£1,268,446
Direct GVA (Present Value of Benefits)	£0	£1,896,234	£1,896,234	£3,665,567	£10,066,022	£4,003,396
25 year NPV						
Indirect GVA	£0	£1,536,386	£977,191	£1,888,986	£8,155,796	£3,243,020
25 year NPV						
Total GVA	£0	£3,432,620	£2,873,425	£5,554,553	£18,221,818	£7,253,016
25 year NPV						
Present Value of Costs to Government	n/a	£1,474,607	£1,763,523	£1,474,607	£12,835,326	£5,214,350
NPV		£421,627	£126,705	£2,130,360	-£2,763,304	-£1,204,354
BCR (ex construction)		1.29	1.07	2.43	0.78	0.77
Rank based on BCR		1	n/a	n/a	2	3
STAGE 2- Scotland Impacts - Spatially Adjusted Analysis to align 'traditional' results with Inclusive Growth approach within Scottish Government's Economic Strategy						
Spatial Adjustment factor	n/a	1.03	1.03	1.03	1.03	1.03
NPV		£531,075	£236,153	£2,528,515	-£1,863,803	-£846,621
BCR		1.40	1.17	2.71	0.85	0.84
STAGE 3- UK Impacts - calculate extent of UK level impacts by taking Scotland level impacts and calculating proportion of them which remain after applying UKG guidance						
Spatial Adjustment factor	n/a	1.22	1.22	1.22	1.22	1.22
STAGE 4- UK Impacts - A high employment area can be thought of as drawing labour from UK whereas low employment area will draw from the local area						
Steady State Direct Employment - Jobs	0	8	8	8	22	10
Steady State Direct GVA	£0	£521,541	£521,541	£521,541	£1,410,391	£646,873
GVA per head for project	£0	£65,366	£65,366	£65,366	£65,366	£65,366
Productivity Adjustment factor (r)	n/a	1.34	1.34	1.34	1.34	1.34
Overall UKG Adjustment Factor (UKAF) (g)		1.64	1.64	1.64	1.64	1.68
Scottish BCR Factor (b)		1.78	1.93	1.40	2.28	2.43
Rank based on Overall UKG Adjustment		3	n/a	n/a	2	1

Assumption	Option 1 No Walking	Preferred Option [Option 3, Phase 1 Only]	Preferred [assessing shock - 20X increase in annual sales]	Preferred [assessing shock - increase in annual sales]	Alternative 1 [Option 3, MHS in Isolation Ph 1 & 2]	Alternative 2 [MHC Operative, Phase 1 only]	Source
Capital Expenditure	0	£1,658,000	£1,332,000	£1,658,000	£15,168,000	£6,889,000	HAC
Discount rate	3.5X	3.5X	3.5X	3.5X	3.5X	3.5X	GreenBook
Model length	25 years	25 years	25 years	25 years	25 years	25 years	EY
Payback profile	0	Years 2022/23 - 2024/25 (Years 3-5)	Years 2022/23 - 2024/25 (Years 3-5)	Years 2022/23 - 2024/25 (Years 3-5)	Years 2019/20 - 2026/27 (Years 8-7)	Years 2022/23 - 2024/25 (Years 3-5)	HAC
Project specification							
Build out - R&D (Class 4k)	0	516	516	516	1,936	648	HAC
Total	0	516	516	516	1,936	648	HAC
Project Build-out							
Build out - R&D (Class 4k)	0	Year 3	Year 3	Year 3	Years 3 - 5 37X; Years 6 - 100X wards	Year 5	HAC
Project Occupancy							
R&D (Class 4k)	0	Year 3 - 7 Fixed 100X	Year 3 - 7 Fixed 100X	Year 3 - 100X wards	Year 3 - 5 37X; Year 6 - 100X wards	Year 6 - 100X wards	HAC
Employment multipliers							
Seisalfin Reliability (Research and Dev (SIC 72))	0	0.81823825	0.81823825	0.81823825	0.81823825	0.81823825	Source: Seisalfin Government, Type 4 Employment Multiplier, Seisalfin, 1998-2017 https://www.gov.uk/government/publications/seisalfin-employment-multiplier
Employment multipliers [assessing]							
Seisalfin Reliability (Research and Dev (SIC 72))	n/a	n/a	0.515332433	0.515332433	n/a	n/a	Source: Seisalfin Government, Type 4 Employment Multiplier, Seisalfin, 1998-2017 https://www.gov.uk/government/publications/seisalfin-employment-multiplier
GVA per head							
Seisalfin Reliability (Research and Dev (SIC 72))			655,366				Source: SAPS 2018, Seisalfin Government, Local Authority Tables https://www.gov.uk/government/publications/seisalfin-annual-household-expenditure-2018
GVA per head uplift			0.38X				HMT GDP Deflator https://www.gov.uk/government/publications/gdp-deflator-annual-market-prices-and-manufacturing-2020-budget
Part time adjustment			87.5X				APS Seisalfin from www.seisalfin.gov.uk, 2015-20 and Homes & Communities (2015) Employment Density Guide https://www.gov.uk/government/publications/employment-density-guide https://www.gov.uk/government/publications/employment-density-guide
Employment Density							
Seisalfin Reliability (Research and Dev (SIC 72))			58				Source: Homes & Communities Agency (2015) https://www.gov.uk/government/publications/employment-density-guide
Construction							
Spent per FTE			£181,000				Seisalfin Government / Community Development Guide for 2000 https://www.gov.uk/government/publications/seisalfin-government-community-development-guide-for-2000
Construction GVA per FTE			45,566				Seisalfin Government RPI Statistics https://www.gov.uk/government/publications/seisalfin-annual-household-expenditure-2018
Additionality			85.5X				Source: Homes & Communities Agency, Additionality Guide, 4th Edition 2014 https://www.gov.uk/government/publications/additionality-guide-4th-edition-2014
Personneling			38X				EY
Geography			Median Earnings				
LOCAL (MUTS 3 - East, North - ra Islands, South)			£18,337				https://www.gov.uk/government/publications/median-earnings
REGIONAL (MUTS 2 - Southern Seisalfin)			£18,000				
SCOTLAND			£19,649				Regional Gross Household Disposable Income 2015
UK			£21,433				
Distributional Weight			1.38				

APPENDIX P: AYRSHIRE GROWTH DEAL CHANGE MANAGEMENT PROCESS

