



ISLE OF MAN
AEROSPACE CLUSTER

Cluster Strategy

2017 to 2020



**Isle of Man
Government**

Reilrys Ellan Vannin



**Isle of Man
Chamber of Commerce**
sheshaghT lughT-traghTee eLLAN VANNIN



**Northwest
Aerospace Alliance**

Adrian Moore – August 2017

 **Isle of Man**
Giving Aerospace Freedom to Flourish



Isle of Man Aerospace Cluster (IOMAC) 3 year strategy 2017/2020

Introduction

Manufacturing forms a crucial part of the Island's economic diversity and provides skilled employment producing consumer and high-tech products and services for the global engineering and electronics industry. A high proportion of engineering manufacturing businesses fall into the sector of "Aerospace" so a strategy which can assist these businesses to collaborate for a common benefit is essential to maximise the island's competitiveness and secure employment in the future. The latest figures show 885 full time IOMAC member employees, a 30% growth in employment over the last 10 years.

The Isle of Man Aerospace Cluster's (IOMAC's) objective is to create a range of services available to the cluster members to facilitate continuous improvement of their businesses in pursuit of world class standards and a minimum standard for the cluster, thereby positioning them at the forefront of the sector. Through a range of events, consultancy, targeted initiatives and networking opportunities, the cluster can provide this sector specific assistance. For Isle of Man based firms networking with the global sector and tapping into centres of excellence is difficult in most cases and for smaller companies impossibly cost/time prohibitive. This leaves IOMAC businesses with a constant battle to keep in touch with the pace and needs of the industry and more importantly level or ahead of their competition.

The IOMAC's relationship with the North West Aerospace Alliance (NWAA) provides access to one of the most influential "aerospace hotspots" in the UK having most of the 'prime' manufacturers in this alliance. The opportunity to be able to network with companies like Rolls-Royce, BAE, and Airbus is impossible to achieve without this historic relationship and a strong cluster offering. The IOMAC is now recognised as an important cog in the North West and UK supply chain and has received awards and recognition as an exemplary collaboration model through the link with DTI, DED and now the Department For Enterprise and the Chamber of Commerce. The members have also notched up 21 industry winner or finalist awards since 2006.



Background

In this market, the *Primes* such as BAE Systems, Rolls-Royce and Airbus no longer wish to work with traditional machining 'job shops' but instead place their business with *Tier 1 System Integrators* and alliances. This increasingly means that companies below this top tier, most Small to Medium Enterprises (SME), cannot win work directly from the primes but must work in collaboration with the system integrators to supply packages, assemblies and aircraft or power plant modules. Only by demonstrating this willingness to collaborate, share best practice, use standard business models and streamline costs can smaller businesses survive. To add further perspective it is typical in the aerospace industry for long term contracts to include a year on year cost down mechanism which by its nature must be cascaded down into the supply chain. It is therefore imperative that all companies, irrespective of their place in the tiering structure, have continuous improvement as part of their core strategy to avoid a gradual erosion of margin and a degradation of supply chain business stability.

In 2006 the then DTI and Chamber of Commerce brought together the leaders of the 5 largest Aerospace companies on the Island to form the IOMAC committee.

The Members of the Cluster committee group are:

Adrian Moore – Cluster Chairman and Cluster Manager

Development Manager for Manufacturing and Inward Investment - Department For Enterprise.

David Hester

General Manager – Swagelok Ltd.

Deputy Chairman of the IOMAC.

Chair – Engineering and Manufacturing Committee of Chamber.

Nick Onyemem

General Manager – Kiartys Engineering Ltd

Chris Allen

General Manager and Director – Triumph Actuation Systems

Vice President – Isle of Man Chamber of Commerce.

Nigel Brown – Managing Director – RLC Ronaldsway Aircraft Company Ltd

Chair – Engineering and Manufacturing sector skills group and ACE.

Brian Maddrell – General Manager – Assystems UK (IOM) Ltd

The Isle of Man Aerospace Cluster companies index.

Manufacturing

- Triumph Actuation Systems www.triumphgroup.com
- Swagelok Ltd www.swagelok.com
- Ronaldsway Aircraft Company Ltd www.rlc-group.com
- Precimatic Ltd www.precimatic.im
- Kiartys Engineering Ltd www.kiartys.com
- EBIS Engineering and Plastics Ltd
- Bladon Jets www.bladonjets.com
- Moynihan Precision Engineering
- Manx Precision Optics www.mpo.im
- Henson Ceramics www.emclimited.co.uk

Supply Chain/Services

- Assystem (IOM) Ltd www.assystem.co.uk
- Target Aerospace www.target-aerospace.co.uk
- Zenith Industrial www.zenith.co.im
- European Aviation Maintenance www.eamiom.co.uk
- ISOQA IOM www.isoiom.com
- Hamblin Recruitment www.hamblin.co.im
- Coldean Aviation
- DHL Express

Vision

The IOM Aerospace Cluster will sustain an international market leading position within high technology and aerospace Industries.

Mission

To facilitate the promotion, development and coordination of Isle of Man aerospace companies to achieve global recognition for its performance, competence, infrastructure and environment.

Objectives

Cost benefits – to identify common costs and obstacles to cost competitiveness and through joint working develop strategies and actions to drive them down for the benefit of the cluster members.
This will require initiatives such as joint sourcing, supplier selection, economies of scale purchasing, lobbying, working closely with government bodies to align policy in support of growth for this sector.

Service benefits – to establish the requirements and to develop a strategy to deliver a supporting infrastructure on the island that will address the operational needs of the cluster to deliver world class performance to its customers.
Through the provision of support to process audits, process development, process approvals, development of quality standards, quality techniques, management tools, supply networks etc.

Capability benefits – to identify a route map to establish cluster members with a world class aerospace technical capability in terms of skills, tools and equipment to meet the current and future needs of the cluster members.
This will necessitate strengthened links to educational establishments, training schools and universities/specialists to align training and skill provision with the current and forecast needs of the cluster. To support R&D initiatives into new tools and techniques and the support to seminars, exhibitions and specialist forum to review latest aerospace developments.

Awareness benefits - to assist with Marketing and PR to raise awareness of the sector and its capabilities both locally and internationally.
This will require an understanding of our unique selling points, an information pack and website, a calendar of events and to produce regular articles in local and international trade press to attract new skills, new business and build cluster awareness.

Strategy

1.0 Cost benefits

1.1 Joint sourcing and purchasing

A number of cluster deals have already re-aligned and lowered prices for existing customers after a detailed review of a number of competitive suppliers. The contract with the NWAA delivers group PR and Marketing with event management, seminars and specific training course access.

Future cluster opportunities:

- Cutting tools
- Advanced lubricants
- Waste metal disposal
- Materials
- Calibration
- Access to UK centres of excellence i.e. training, knowledge transfer
- Specific training courses.
- Chemicals and Treatments
- First Article
- NDT
- Transport and Logistics
- Advanced Manufacturing incl. Metrology, Robotics, ALM and Materials.
- Quality Audits and Accreditations
- Professional Registration

The Aerospace industry demands high levels of accountability, integrity and traceability in everything that it does. This means that companies operating in this field must attain and maintain certain quality accreditations, process approvals, customer approvals and conduct or be subject to audits of these processes on a regular basis. Every product that is supplied, manufactured or designed is done so under strict controlled standards and must be warranted against failure of any design, material, component or process that makes up the final component, assembly or module. Where failures do occur then it is possible for that failure to be pin pointed to the exact process of processes which contributed to the failure right down to the machine/assembly tool and operation, material batch and supplier or surface/material treatment batch. To maintain these exacting processes and standards can be costly and time consuming for any company supplying the aerospace industry but when viewed as a cluster we can see a number of common areas for many of the cluster members.

The cluster will work together to create an environment where members can tender competitively for local contracts by assisting businesses to attain the correct quality, cost and delivery standards, with auditable processes and procedures. This will allow local companies to access and achieve the mutual benefit of shared work packages and by its very nature attain shorter lead times and lower carriage costs in comparison to off-island sources. This joined-up approach will also enable the cluster companies to bid for work packages from off island customers, being able to prove value for money and high levels of service as a supply solutions provider.

1.2 Lobbying

Where government (and boards) economic policy affects the operational costs and effectiveness of the sector the cluster committee will use the strong links to government and its integration with the Chamber of Commerce and Department for Enterprise to lobby the decision making and future policy direction of the Isle of Man Government (and its boards) on behalf of all cluster members. This action will be taken when IoM costs or related policies are proven to be uncompetitive in relation to UK and NI cost in particular, and general global competition and as such threaten the continuation or long term growth of existing cluster businesses.

Typical areas might be:

- Energy costs
- Waste disposal
- Business taxation
- Import/Export controls
- Skills and training
- Infrastructure
- International policy
- Communications infrastructure
- Business travel and shipping

2.0 Service Benefits

2.1 IOMAC supply chain forums/events

These quarterly networking events are facilitated by the NWAA which consistently draws 30+ delegates. Events are quarterly and have included key note speakers from Rolls-Royce, BAE Systems, Airbus, Industry Forum, ADS, NASA, Unipart and the Advanced Manufacturing Research Centre to name a few. The events are educational in nature and deliver industry news, technology developments, process excellence tools, industry studies, collaboration and supply chain opportunities and a valuable networking opportunity for the members.

We will provide:

- 4 x cluster forums per year
- NWAA facilitated event
- Local venue
- Networking lunch
- Quality speakers - Industry leaders and manufacturers/service providers.

2.2 Collaboration

The cluster created the basis and collaborative nature of the new Engineering and Manufacturing Apprenticeship which continues to attract high levels of interest annually and is managed by the ACE project (and its skills champion) which is funded by DFE and a large number of the IOMAC members. The IOMAC enabled the partnership with the NWAA and all of its services and connects us to the UK supply chain and primes. IOMAC developed a 'design and manufactured collaborative solution' which could win long term contracts from the primes for the benefit of all IOMAC members.

We will:

- Continue to support Awareness of Careers in Engineering (ACE) project.
- Continue to develop and support the Engineering and Manufacturing Apprenticeship.
- Continue to support the contract with the NWAA

- Develop design for manufacturing offer and possible customers
- Develop MOU's with strategic centres of excellence
- Facilitate close working with all cluster members

3.0 Capability benefits

3.1 Industry supported business improvement initiatives.

There have been a number of industry adopted initiatives over the years designed to help companies stay lean, innovative and world class. Many of these initiatives involve benchmarking business against a notional world class model and assisting them to improve, collaborate and invest. These have ranged from the NWAA's own ASCE programme, to JTPE, SiG and SC21.

We will monitor and review each opportunity with our UK partners to ensure that all cluster members can gain access to the most appropriate initiative to their needs and the needs of their customer.

3.2 Industry accreditation

We will investigate the opportunities and most appropriate partnerships to enable our training schemes and staff development programmes to work towards globally recognised standards and for our staff to gain professional engineering and management support and accreditation for their respective career paths.

4.0 Awareness benefits

4.1 Marketing and PR

When it comes to Marketing and PR, each cluster member has a different requirement. The cluster is made up of varying types of business, from service provider and small machining companies to large companies with global HQ's. This means that any marketing strategy must take into account each member's needs and whilst it is important to market the cluster as a joined up entity, some of the larger companies do not need to market themselves as an IoM business for the purposes of attracting new customers. The marketing thrust will therefore give prominence to those companies who can benefit from the direct publicity whilst ensuring that it is sensitive to larger company's corporate policy.

We will lead the following Marketing and PR activity:

- Supply chain workshop events which attract influential speakers from industry primes and official industry institutions allowing the IOMAC to showcase itself to decision makers.
- Maintain our own dedicated NWAA website section
- Maintain the IOMAC section of NWAA capability directory.
- Create and maintain an IOMAC Brochure
- Contribute to a full page of news/articles in NWAA quarterly bulletin.
- Contribute to the EMC Chamber newsletter
- Provide news articles/sector briefings for local and international newspapers and magazines
- Access the support to global exhibitions and events (Paris/Farnborough etc.)
- Assist government to showcase the sector as a joined up proposition with global PR and provide a focal point for the DFE Lansons PR contract.
- Support inclusion in the Government 'Where You Can' site and literature.
- Maintain the dedicated IOMAC website/portal for marketing and information exchange www.aerospace.co.im
- Pursue local and industry awards
- Support public outreach initiatives to educate the local population about engineering and manufacturing in the community.

4.2 Corporate Social Responsibility

Working with others to create change that benefits both business and society.

Specifically:

- Developing products and services with improved social and environmental impacts
- Develop manufacturing processes with improved social and environmental impacts
- Support the ACE project, DFE and DEC to promote engineering and manufacturing in the community
- Take a leading role in work experience and undergraduate programmes (e.g. STEP)
- Promote the sector as responsible employers and our employees as active members of the community (e.g. local and regional marketing and PR activities)
- Support local community events
- Work within the highest levels of safety and environmental standards to protect our staff and our environment.

5.0 Growth of the sector

The engineering manufacturing sector has grown by nearly 50% in the last five years via a stable year on year expansion. The latest intelligence from the cluster members is that they could double their turnover in the next 5 years and add a further 300 skilled jobs. This growth is predominantly driven by our aerospace sector through their ability to react and change in response to threats and opportunities in the global aerospace markets. Our aerospace manufacturers have vast experience in many areas of aerospace technology and have grown their businesses and capabilities in the Isle of Man for well over 70 years. This fact makes the island an attractive prospect for potential inward investment and proves that our infrastructure has the right ingredients for advanced manufacturing and that government has a real focus on developing this area of the economy. The DFE through the IOMAC are in detailed discussions with a number of international aerospace businesses to explore expansion or relocation options. These businesses range from complimentary companies who would add extra capability to the existing cluster, small start-up technology companies and global aerospace prime manufacturers. All of these companies cite the existence of an existing cluster and potential local supply chain as one of the key decision makers for considering moving here.

The detailed information gathered from IOMAC members will be used by DFE to assess the suitability of any inward investment leads and be measured in terms of skills, infrastructure and competition so as not to adversely affect the existing sector but to build upon it wherever possible.

The cluster members will:

- Provide information and statistics to assist Government to expand training provision
- Support skills initiatives to attract new staff
- Act as ambassadors for the sector
- Promote apprentice schemes and work placement opportunities
- Assist with inward investment missions and site visits.

6.0 Key Performance Indicators

The key measures and targets which will be used to indicate the IOMAC's performance.

Targets

- IOMAC forum events 4 per year
- Magazine articles (local and Trade) 4 per year
- Newspaper articles (Local and UK broadsheet) 4 per year
- Work Experience opportunities (incl. STEP) 12 students a year
- Commitment to AMTC graduate take up 18 graduates a year
- Consolidated services initiatives 1 per year
- Local community events supported 2 per year
- Exhibitions (visits & exhibits) 2 per year

KPI

- Employment Growth +100 FTE in 3 years

* The contract with the NWAA includes specific KPI relating to activity and performance.

A2.0 Competency

- Triumph Actuation Systems: *Components and assemblies for actuation and landing gear.*
- Swagelok Ltd: Design and manufacturing of *critical, complex and sensitive mill/turn and prismatic parts/assemblies targeting aero-engine, oil, gas and chemical markets.*
- Ronaldsway Aircraft Company Ltd: *Manufacturers and system integrators. Civil and Military.*
- Precimatic Ltd: *Precision machined and assembled components.*
- Kiartys Engineering Ltd *Precision engineering, Mill/MillTurn, prototyping, toolmaking and small batch.*
- EBIS Engineering and Plastics Ltd: *Toolmaking and precision engineering/prototyping*
- Bladon Jets: *Micro axial flow gas turbine design and development.*
- Assystem (IOM) Ltd: *Aircraft design and stress engineers. Civil and Military.*
- Target Aerospace/Tools : *Machine tool supplies and engineering consultancy.*
- Zenith Industrial: *Engineers merchants and health and safety stockists.*
- European Aviation Maintenance: *Aircraft maintenance, repair and overhaul.*
- Moynihan Precision Engineering: *manufacturers of specialist bespoke assembly and product life testing machines, measuring and gauging equipment, non-contact part recognition and measuring vision systems.*
- Manx Precision Optics – *Specialist optics and coatings for R&D, Space and optronics.*
- ISO QA IOM – *Quality management consultants – AS9100, ISO9100 and all other ISO disciplines.*
- Coldean Aviation – *Design house specialising in customer derived aircraft modifications, EASA approval applied for.*
- Henson Ceramics/EMC Ltd – *Manufacturers of ceramic sensors and monitors for molten metal/metal production processes.*
- DHL Express – *Worldwide tracked and express logistics service.*

A3.0 Glossary of Terms

ACE – *Awareness of Careers in Engineering.*

ADS – *Aerospace, Defence and Security – The UK's leading member organisation*

ALM – *Additive Layer Manufacturing (commonly known as 3D printing)*

AMTC – *Advanced Manufacturing Training Centre*

DED – *Department of Economic Development*

DTI – *Department of Trade and Industry*

DFE – *Department for Enterprise*

DEC – *Department of Education and Children*

EASA – *European Aviation Safety Authority*

EMC – *Engineering and Manufacturing Committee*

IOM – *Isle of Man*

IOMAC – *Isle of Man Aerospace Cluster*

ISO – *International Standards Organisation*

JTPE – *Journey to Process Excellence*

KPI – *Key Performance Indicator*

NDT – *Non-destructive testing*

NI – *Northern Ireland*

NWAA – *North West Aerospace Alliance*

SME – *Small to medium sized enterprise.*

SiG – *Sharing in Growth*

SC21 – *Supply Chain 21st Century*

STEP – *Student Technology Enterprise Programme*