

How can the Advancing Manufacturing Centre (AMC) help your business



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Advancing Manufacturing within the West Highlands



West Highland College UHI is getting ready to open the doors to its new Advancing Manufacture Centre (AMC) at the Ocean Frontier in Fort William

The centre, part of Advancing Manufacturing within the West Highlands, will provide small-to-medium businesses within the region (and wider HIE areas) access to advanced manufacturing technology and expertise at zero cost.

The services we provide to your business are free of charge. The project is part of the national 'Advancing Manufacturing Challenge Fund' which is a partnership between the Scottish Government, Scottish Enterprise, and Highlands and Islands Enterprise (HIE).



This project is part-funded by the 2014-2020 European Structural and Investment Fund



European Union



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Meet the team



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The centre is run by Margaret Weir, an IMechE Chartered Engineer who has a MEng in Product Design Engineering.

She has built up experience throughout her career across several industries including Construction, Water, Oil & Gas and Batteries - more recently working as Project Manager of an Oil & Gas Process team.

Margaret Weir

Project Manager



Andy spent 29 years working for Delcam PLC (delcam.com) - a world leader in 3D computer aided manufacturing software.

Andy has renovated 2 properties and built a fantastic B&B business.

He is a qualified sea kayak leader and lead groups on the ocean.

Andy Harpur

Technician

What we are here to do



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- » **Create** a new specialist advanced manufacturing hub for the West Highlands
- » **Support** SMEs and micro businesses involved in manufacturing across food and drink, construction, aquaculture, metals and timber products
- » **Enable** adoption of new technology, more effective processes, small scale R&D and product development
- » **Provide** access to a range of manufacturing technologies in a sand pit environment with dedicated support
- » **Encourage** innovation & growth

3D Scanner

CAD / CAM

3D Printer

Machining

Industry 4.0

Project
Management,
Research &
Development

Scanning



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Get accurate 3D models of small objects, large objects, to structures with our 3D scanning and processing at the AMC

You can scan objects to reverse engineering, models for manufacturing, use for healthcare applications and to create VR/VA models. Come along to the Centre, drop objects off in to us or arrange us to do a site visit.

We have an Einscan Pro 2 Plus Model and Leica RTC 360 Professional. With these we can Convergent Modelling, Synchronous Modelling, Reverse Engineering, Simulation, additive Manufacturing, Inspection.



CAD - Computer Aided Design

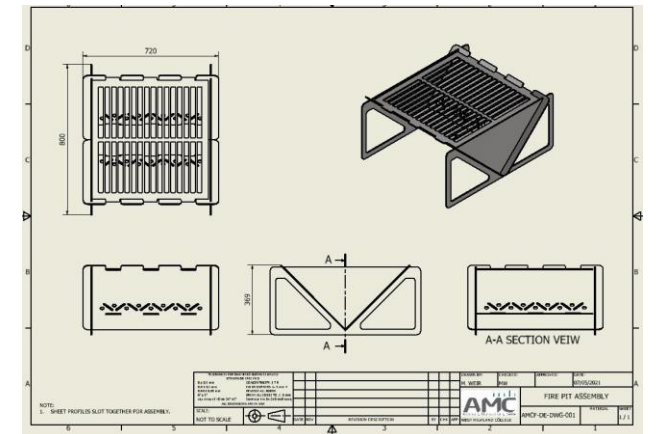
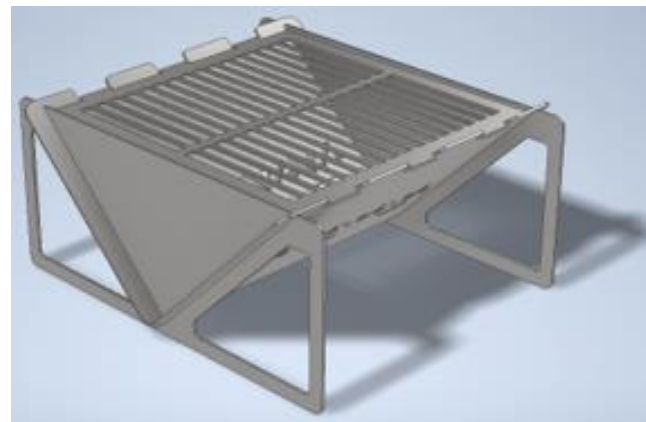
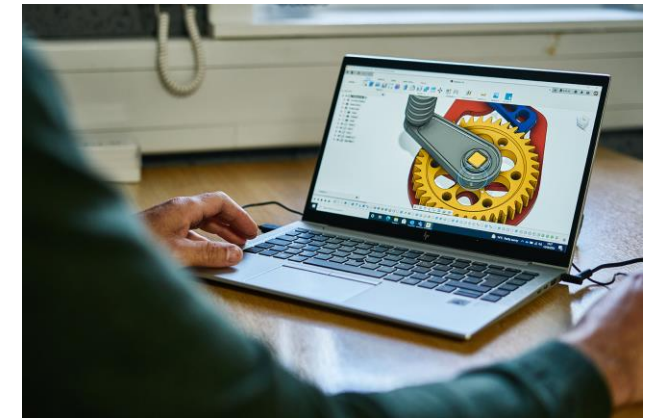


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We offer a variety of 3D CAD design services, ranging from conceptual 3D modelling through to engineering design (where deliverables can be 2D or 3D engineering drawings), 3D CAD files for CAD/CAM machining, or even files for 3D printing and rapid prototyping – depending on your project's requirements.

We will make sure that your CAD drawing clearly communicates your requirements.



3D Printer



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FFF is the most widely available form of 3D Printing. It is an additive manufacturing technology that build parts layer by layer with molten plastic.

Prototypes, batch manufacture, moulds and Jigs/fixtures can be created within the printers. All that is required is CAD model which we could aid you in creating and then we can create your print.

We have a Craftbot Idex Flow and Craftbot Idex Flow XL.



CNC – Computer Numerical Control



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We have number of different machines you can access either through our technician producing the parts, or you can use the machines yourself. Similar to the 3D Printers, it uses a CAD model which we could aid you in creating and use CAM to programme the machines.

Machines	5-Axis Mill	Mazak CV5-500
	3-Axis Mill	Doosan DEM 4000
	Lathe	Doosan Lynx 2100LMB
	Router	Isel Euro Mod MP6
	Plasma Cutter	Boxford A1HSPi – 80 Amp
Materials	Steel, Aluminium, Plastic, Wood	



Industry 4.0



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Industry 4.0 can increase production efficiency, reduce waste, decrease manufacturing costs, but a common challenge for Small to Medium Business' is lack of resources, skills, and time to implement tools.

We aim to help you improve your business whether it's small gains through process improvement in the area you are in, or assisting you move from one to the next.

The centre has an Industry 4.0 Suite, there are several technologies and training to allow business to trial, train and investigate how they work.



Industry 4.0



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FESTO Equipment:

- » Double-sided mobile pneumatic workstation
- » Mobile hydraulic workstations
- » Simulation software, 10 Hydraulics, 10 Pneumatics
- » Investigation systems
- » Mechatronics (2 x DSL202 + 1 x robot)
- » Machine maintenance, Mechanics - L1, L2, L3
- » Solar Trainer
- » Wind Trainer
- » Electric Vehicle Trainer
- » 8 Station Industry 4.0 Modular Learning System + AGV
- » Process Automation (Proportional, Integral, and Derivative (PID) Training Rig)



Project Management, Research & Development



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Margaret Weir, chartered engineer who has a MEng in Product Design Engineering

- » She has experience in industries spanning construction, water, oil and gas, and batteries
- » She has a background in leading projects, working with multiple departments, working within budget and time constraints, designing complete assemblies, design of test fixtures and undertaking calculations

Margaret can work with SMEs as a Project Manager or Project Engineer to support them.

Project Management Services	Project Engineering Services
Risk management	Research
Schedule benchmarking	Concept creation
Change management	Design reviews
Value engineering	Design for manufacturability
Feasibility reviews	Product Design
Design and engineering management	Standard review
Procurement management	PFMEA
Handover management	DFMEA

AMCF Projects



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There are 12 Advancing Manufacturing Challenge Fund (AMCF) projects which have a thematic, regional and/or a Scotland-wide focus and whose aim is to support the advancing manufacturing capabilities of SMEs within Scotland, leading to long-term transformational change.

Find out more at [Projects – AMCB \(numeriq ltd.com\)](https://www.numeriq ltd.com/projects-amcb)

ADVS Aerospace Digital Visualisation Suite	AIMS Advancing Innovative Manufacturing in the South of Scotland	AM-BATS Additive Manufacturing – Business & Technology Support Packages	Digital Manufacturing & Leadership CPD Programme
The Critical Engineer	Eden Campus Demonstrator	MDMC Medical Device Manufacturing Centre	SCA Supply Chain Aerospace
Smart Hub for Manufacturing and Construction	Scout (Scottish Outreach)	Smart Hub Lanarkshire	AMC Advancing Manufacturing within the West Highlands

Any questions?



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UHI | **WEST HIGHLAND
GÀIDHEALTACHD AN IAR**

Advancing Manufacturing Centre, Ocean Frontier, Fort William PH33 6AN

amc.whc@uhi.ac.uk

01397 874 000

margaret.weir.whc@uhi.ac.uk

07920 535 769

www.whc.uhi.ac.uk/amc