



Kick-Off Meeting – UK Mainstreaming Committee Lloyd's Register & TWI

Project title: **C**reating know**L**edge and skill**L**s in **A**dditive **M**anufacturing

Reference number: 2017-3309/591838-EPP-1-2017-1-ES-EPPKA2-SSA



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Agenda

09:00	Introductions
09:10	Protocol for meeting
09:15	Overview of CLLAIM project
09:25	SAM project <ul style="list-style-type: none">• Objectives & links to CLLAIM• Possibility for the experts to join the observatory of SAM project
09:35	Purpose of mainstreaming committee <ul style="list-style-type: none">• Strategy• Access to information through <u>CLLAIM website</u>• How to implement CLLAIM results on a national basis• Agree frequency of meetings
09:55	Any other business <ul style="list-style-type: none">• Feedback (<u>survey monkey</u>)
10:00	Close meeting



Protocol

Members of the mainstreaming committee to observe the following guidance:

- No discussion or forecasting of prices for goods or services provided by or received by a company
- No sharing or discussing any company's confidential or proprietary information
- No discussion of a company's specific purchasing plans; merger/divestment plans, production information, inventories or costs
- No sharing or discussion of specific company compliance cost, unless publicly available
- No agreement or discussion regarding the purchase or sale of goods or services (such decisions are independent company decisions)
- No discussion of how individual companies intend to respond to potential market/economic scenarios or government action; discussion is limited to generalities
- No disparaging remarks regarding specific vendors, products or services

If a discussion presents an issue, raise your concern immediately. If the discussion continues, announce that you are leaving the meeting because you have an antitrust concern.





Overview of project

Summary:

- International AM qualification body and harmonised qualification system
- EQF and ECVET methodologies
(European Qualifications Framework & European Credit system for Vocational Education & Training)
- Guidelines and examination materials - Competency Units (CU) and Recognition of Previous Learning (RPL)

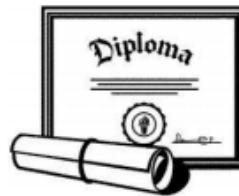


Designer, Operator, Supervisor and Inspector → Guidelines per profile



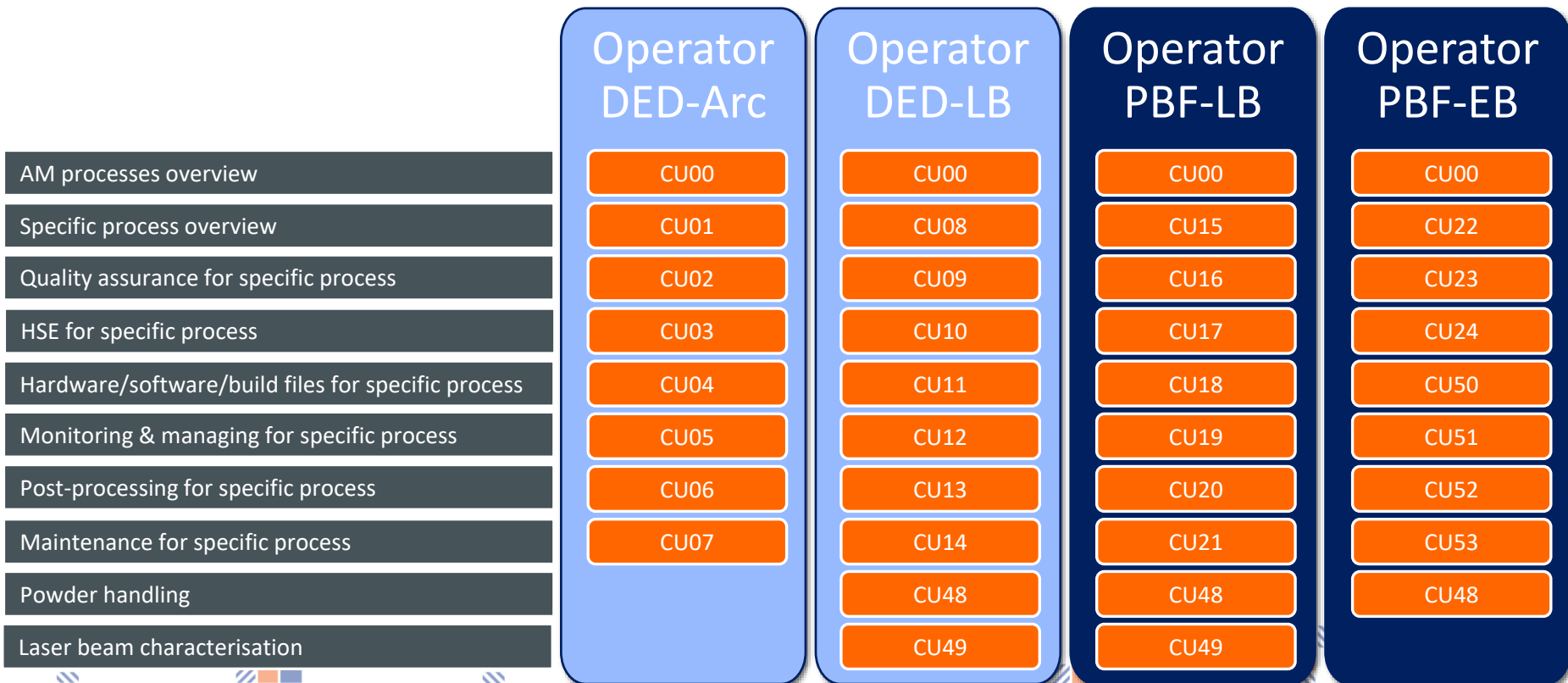
64 Competence Units

✓ Record of Achievement





Overview of CLLAIM project





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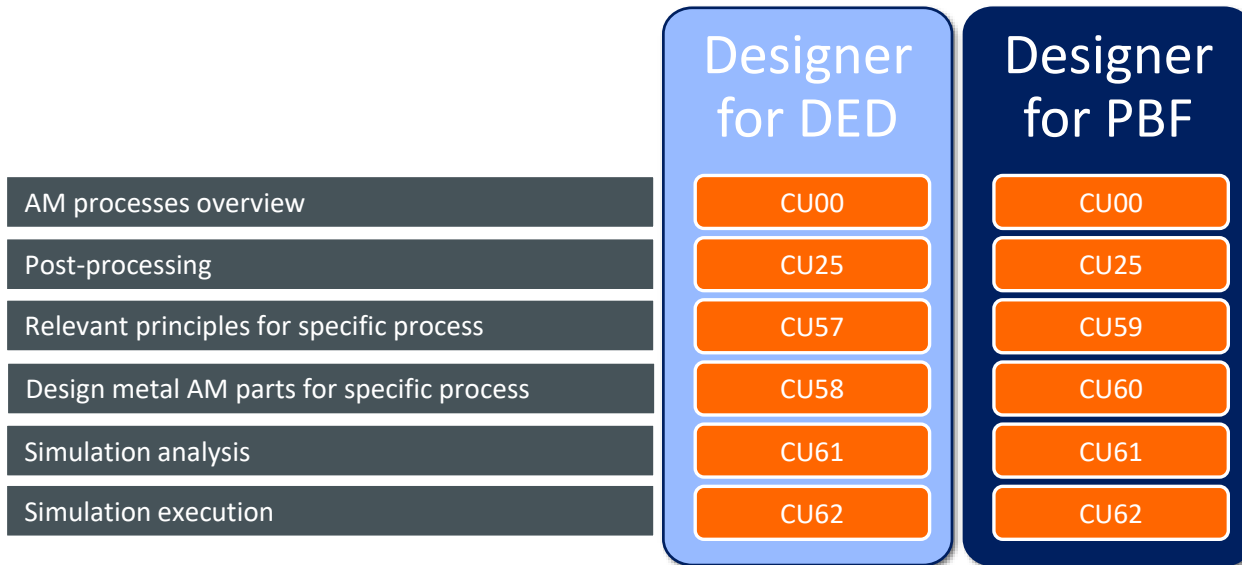
Project title: Creating knowLedge and skillS in Additive Manufacturing

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CLLAIM

Overview of CLLAIM project





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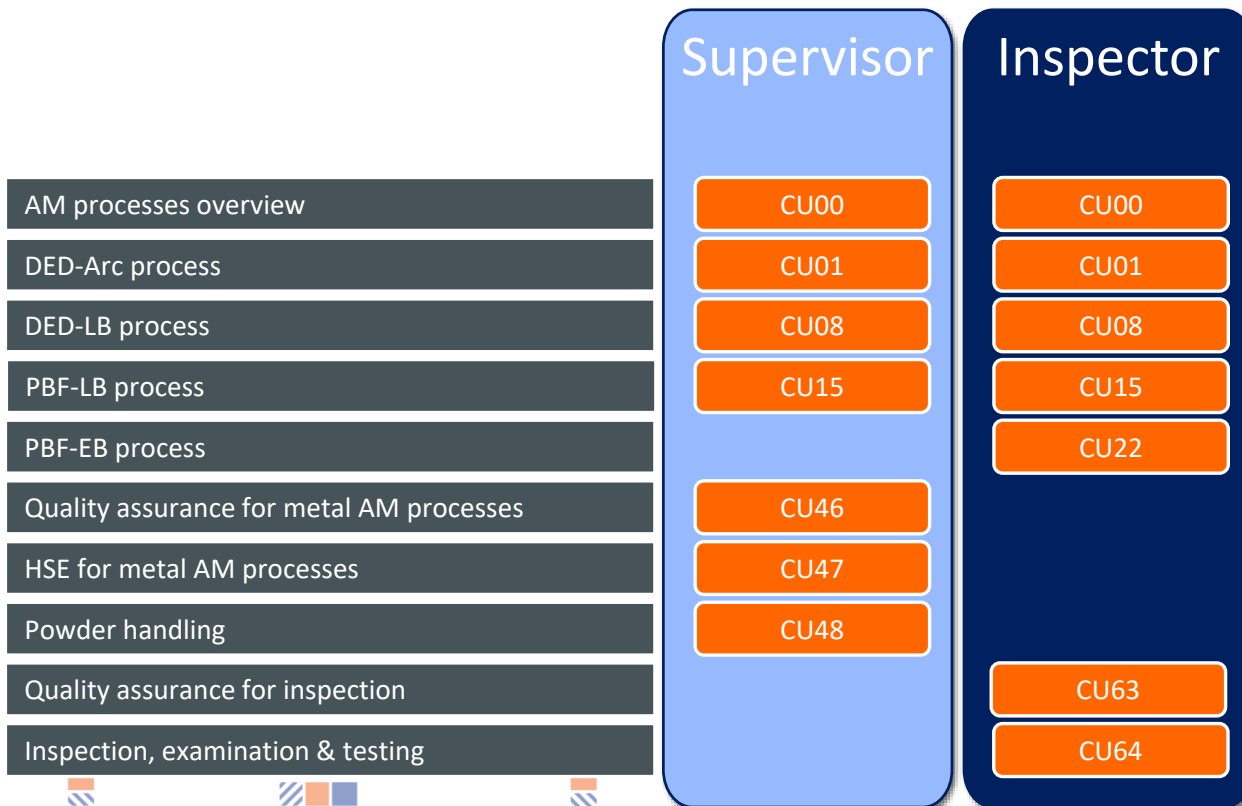
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Overview of CLLAIM project





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Overview of CLLAIM project

Qualifications developed in CLLAIM:

Operator DED-Arc 8 CU 80.5 hours	Operator PBF-LB 10 CU 80.5 hours	Designer DED 6 CU 115.5 hours	Designer PBF 6 CU 108.5 hours
Operator DED-LB 10 CU 108.5 hours	Operator PBF-EB 9 CU 73.5 hours	Supervisor 7 CU 87.5 hours	Inspector 7 CU 126 hours

<http://cllaimprojectam.eu/>



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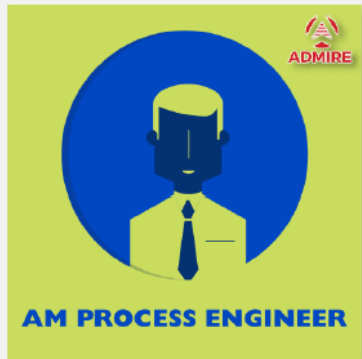
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CLLAIM

Links to SAM project



International Metal AM Professional Profiles



CLLAIM



- Directed Energy Deposition - Arc
- Directed Energy Deposition - Laser Beam
- Powder Bed Fusion - Laser Beam
- Powder Bed Fusion - Electron Beam
- Vat photopolymerization
- Material jetting
- Binder jetting
- Polymers
- Composites

<http://www.skills4am.eu/index.html>



Links to SAM project

Process Engineer

AM processes overview

DED-Arc process

DED-LB process

PBF-LB process

Post-processing

Introduction to materials

AM with steel feedstock (excluding Stainless)

AM with stainless steel feedstock

AM with aluminium feedstock

AM with nickel feedstock

CU00

CU01

CU08

CU15

CU25

CU26

CU27

CU28

CU29

CU30

CU31

CU32

CU33

CU34

CU35

CU36

CU43

CU44

CU45

AM with titanium feedstock

AM with tungsten feedstock

Biomedical metallic materials

Process selection

Metal AM integration

Coordination activities

Production of PBF-LB parts

Conformity of PBF-LB parts

Conformity of facilities featuring PBF-LB



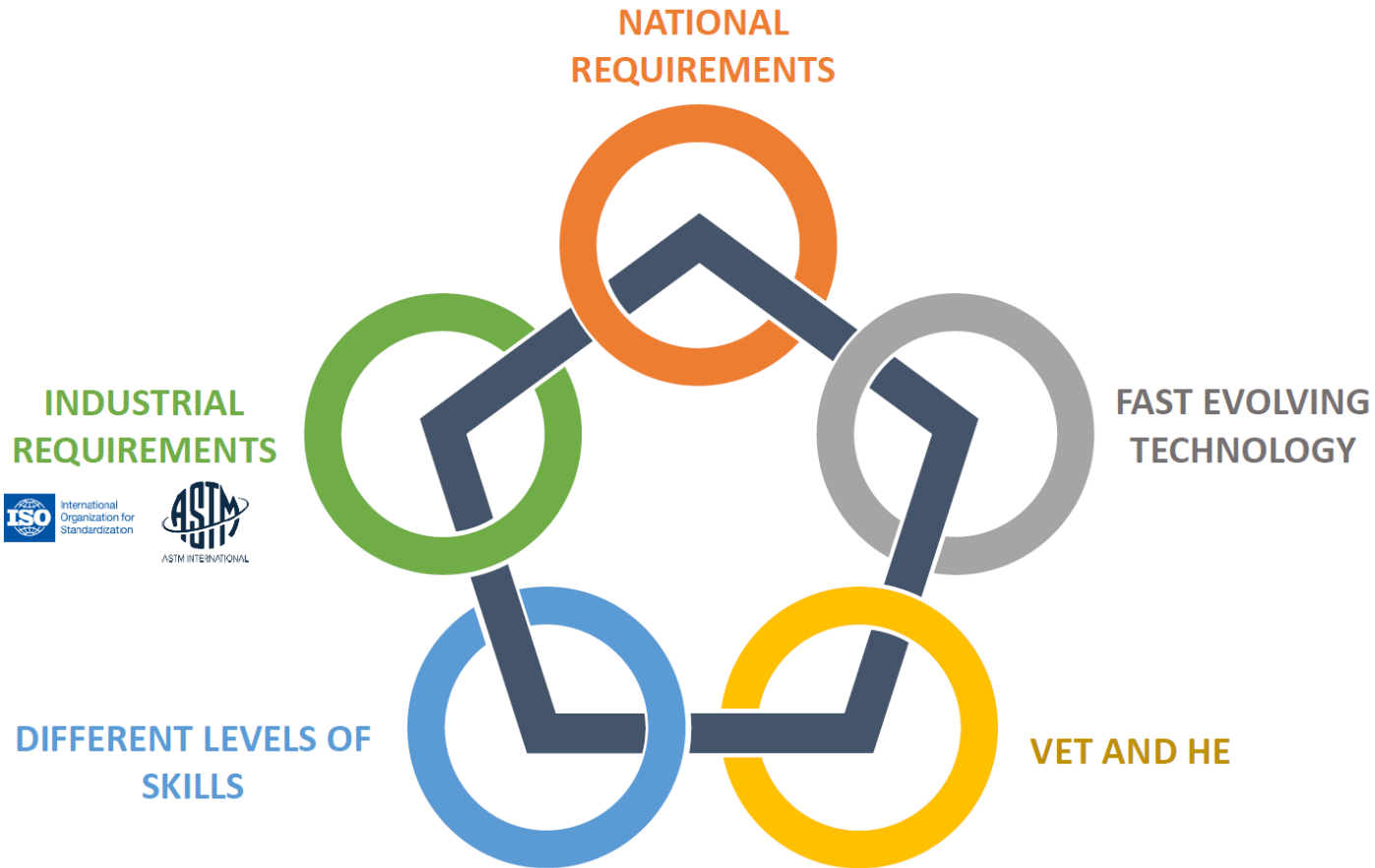
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Links to SAM project



CLLAIM Mainstreaming Committees

Exploitation of the AM Qualification System:

Technical Committees /Working Groups

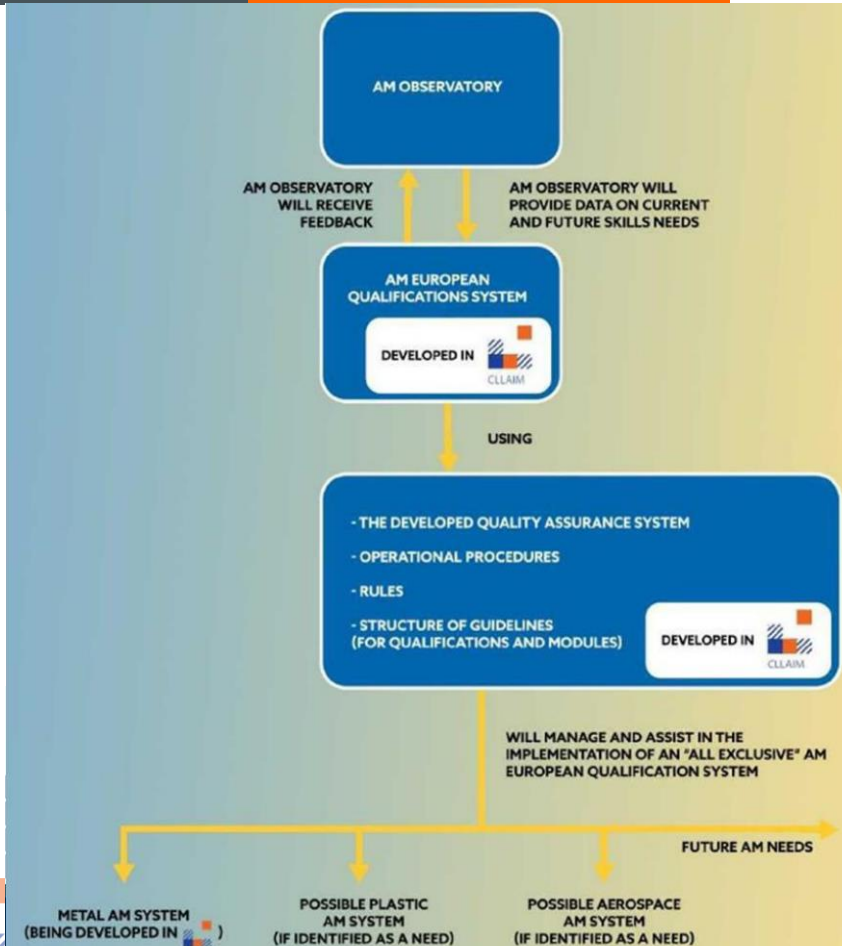
Qualification guidelines, rules and procedures are developed and approved by all members

Authorized Nominated Bodies

Responsible for the supervision and implementation of the system through the Authorised Nominated Bodies – ANBs

ATB Approved Training Centers

ATBs implement the qualification guidelines





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CLLAIM Mainstreaming Committees

AM Observatory



Skills forecast

Development & review of
Professional Profiles /Qualifications



Real Case Scenarios
(6 months)

Short Term Scenarios
(2 years)

Foresight Scenarios
(10 years)



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National MSC



Observatory





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CLLAIM Mainstreaming Committees

JOIN SAM GROUPS!

All Students, Trainees and Jobseekers in AM are invited to join SAM project groups.

Sector Skills Strategy in Additive Manufacturing

<https://www.linkedin.com/groups/12231279>



Students, Trainees & Jobseekers in AM

<https://www.linkedin.com/groups/8918566>



3D Printing Channel

<https://www.youtube.com/channel/UCO-PfDXv5ReiELtkvyVbtHA>



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Thank you for your attention
Please complete the feedback:

[https://www.surveymonkey.co.uk/r/UK CLLAIM Committee feedback](https://www.surveymonkey.co.uk/r/UK_CLLAIM_Committee_feedback)



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