



## WP5: Development of a harmonized RPL scheme for the AM sector

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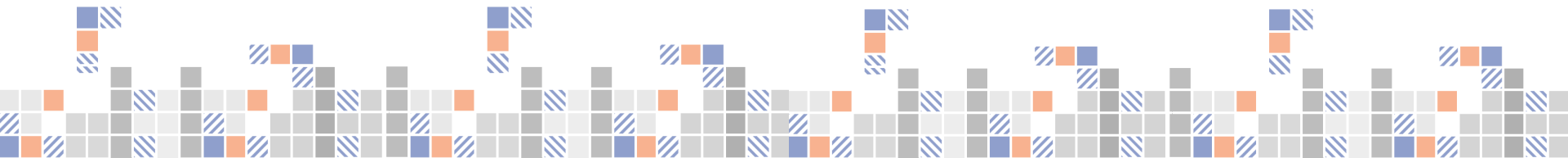


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# Introduction to RPL (Recognition of Prior Learning) Concept

RPL is the process that **allows an individual to recognize knowledge, skills and experience towards achieving a specific qualification**, through an evaluation process that seeks to establish whether said person is the holder of the **standard learning outcomes** expected for said qualification:

- An RPL process takes into account not only the knowledge, skills and experience accumulated through formal training and paid work activities, but....
- The ones obtained under **non-formal or informal training and experience systems**, such as self-training, volunteering, participation in professional forums, etc., assuming these are traceable.



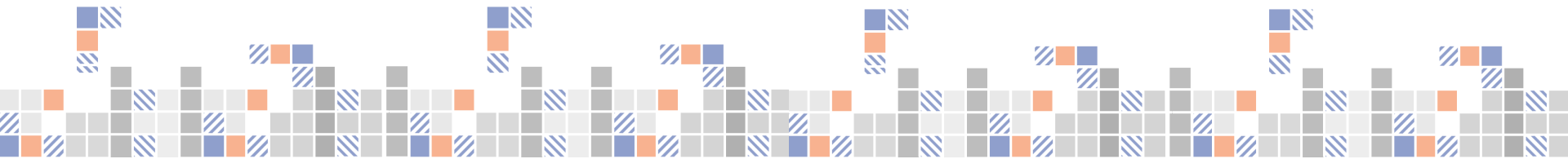
# Applying RPL Concept to Additive Manufacturing



AM Main training Facts:

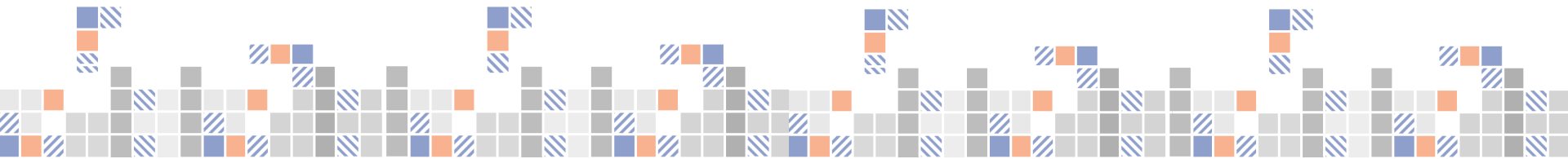
- Relative novelty and the great variability of AM technologies currently make it difficult to configure easily recognizable and transferable schemes.
- A good part of the knowledge and skills in AM are only obtainable through the direct experience in these technologies.

Thus, the **development of a harmonized RPL scheme is especially advantageous for professionals in the AM field**, since it allows them to access and obtain a qualification in AM in a considerably accelerated way compared to traditional training schemes, in a manner fully compatible with their work activity.



# RPL Additive Manufacturing Actors (I)

- **European Welding Federation (EWF)** → promotes and articulates rules and standards, which are deployed to different countries through the designation of Authorized National Bodies (ANBs).
- **Authorized National Bodies (ANBs)** → evaluated and approved by the EWF, the ANBs carry out national deployment of the rules and standards defined by the EWF.
- **Authorized Training Bodies (ATBs)** → evaluated and authorized by the respective ANBs to apply the rules and standards defined by the EWF, the ATBs are authorized to provide training and be part of the RPL process

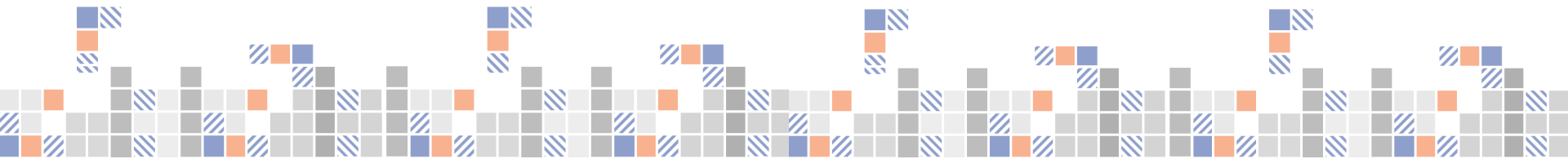


# RPL Additive Manufacturing Actors (II)

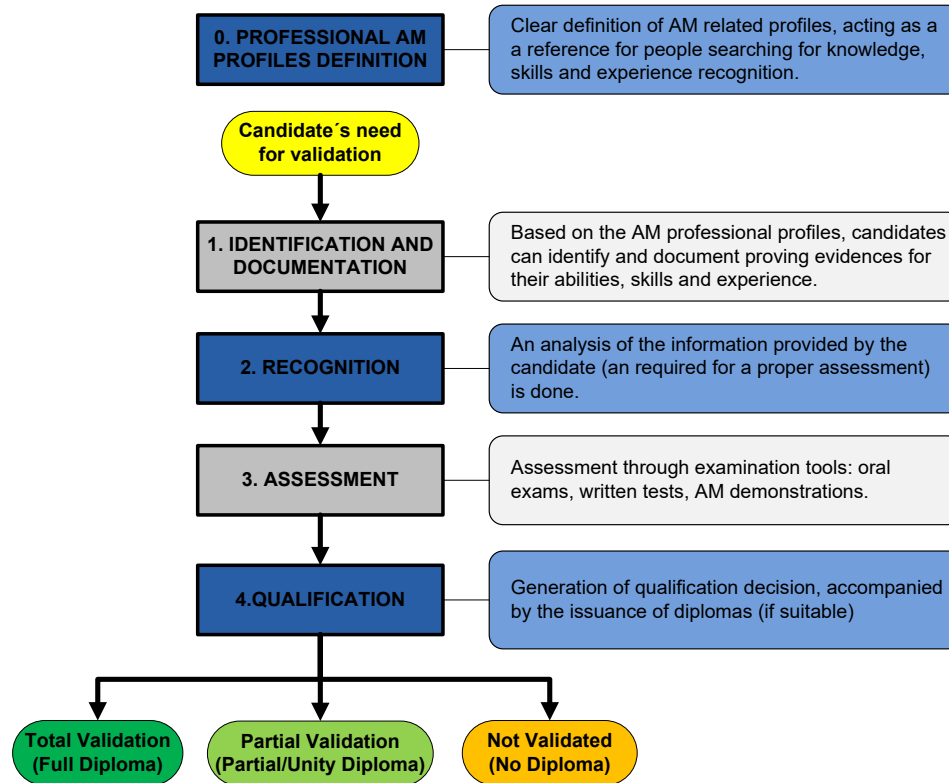
- **Candidates** → people who want to see their level of knowledge, skills and experience recognized with respect to any of the identified AM profiles, and who undergo the validation process described in this guide.

***Important:** The RPL process is aimed at candidates who not having followed “traditional” training routes (i.e. official courses), consider themselves to have obtained the required learning outcomes for a selected AM professional profile, through formal, informal or not formal education/training.*

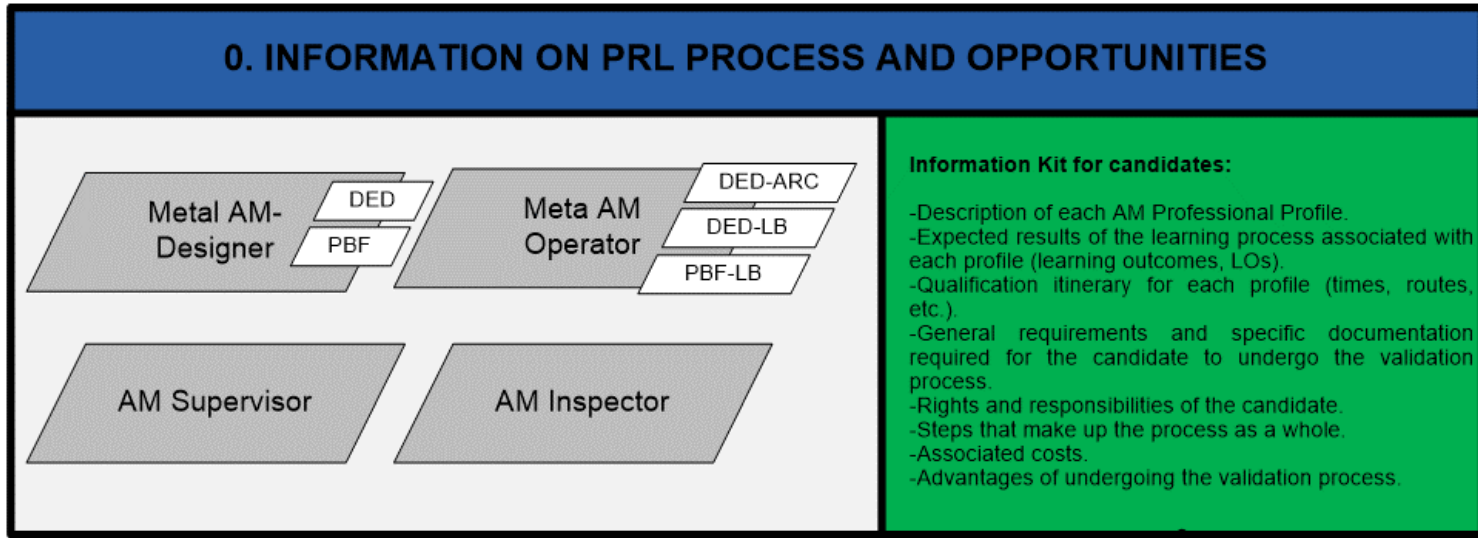
- **Examination Board** → body that acts on behalf of the ANBs and is appointed by them, and supervises the RPL process as a whole (representative of the ANB + representatives of the industry + representative of the ATB)



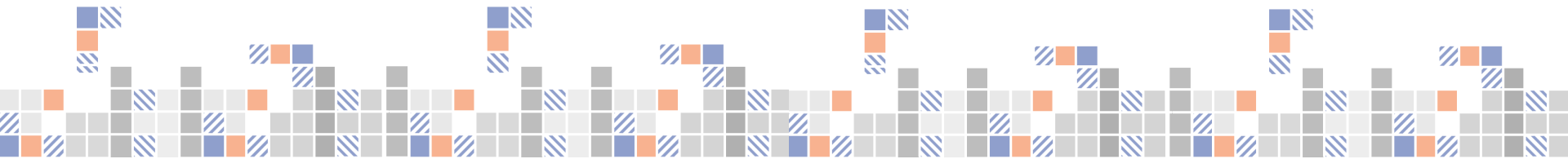
# General RPL Validation Process



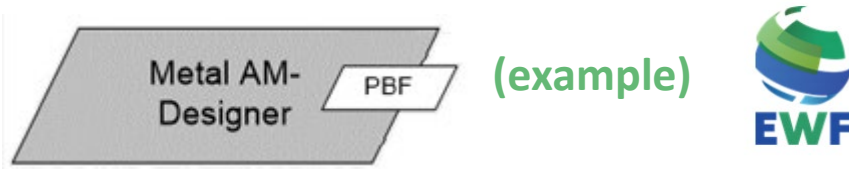
# RPL Process Workflow in detail: Information on PRL Process



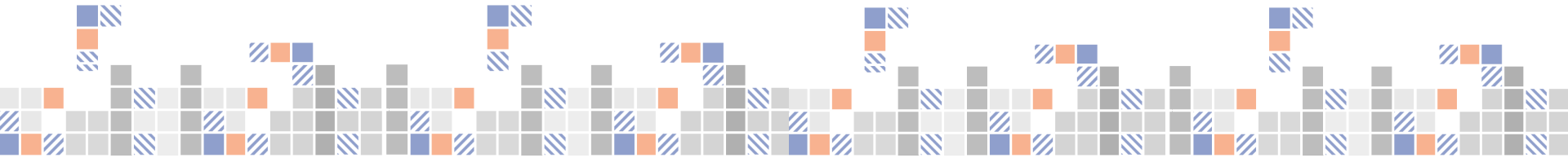
EUROPEAN WELDING FEDERATION guidelines for the different profesional Profiles



# RPL in detail: Info on PRL Process → AM Professional Profiles → Competence Units



COMPETENCE UNITS
CU 00: Additive manufacturing Process Overview
CU 25: Post Processing
CU 59: Relevant principles of PBF Processes for Design
CU 60: Design Metal AM parts for PBF Processes
CU 61: Simulation Analysis
<b>(optional CUs)</b>
CU 62: Simulation Execution





# RPL in detail: Info. on PRL Process → AM Prof. Profiles → Cus → Learning Outcomes

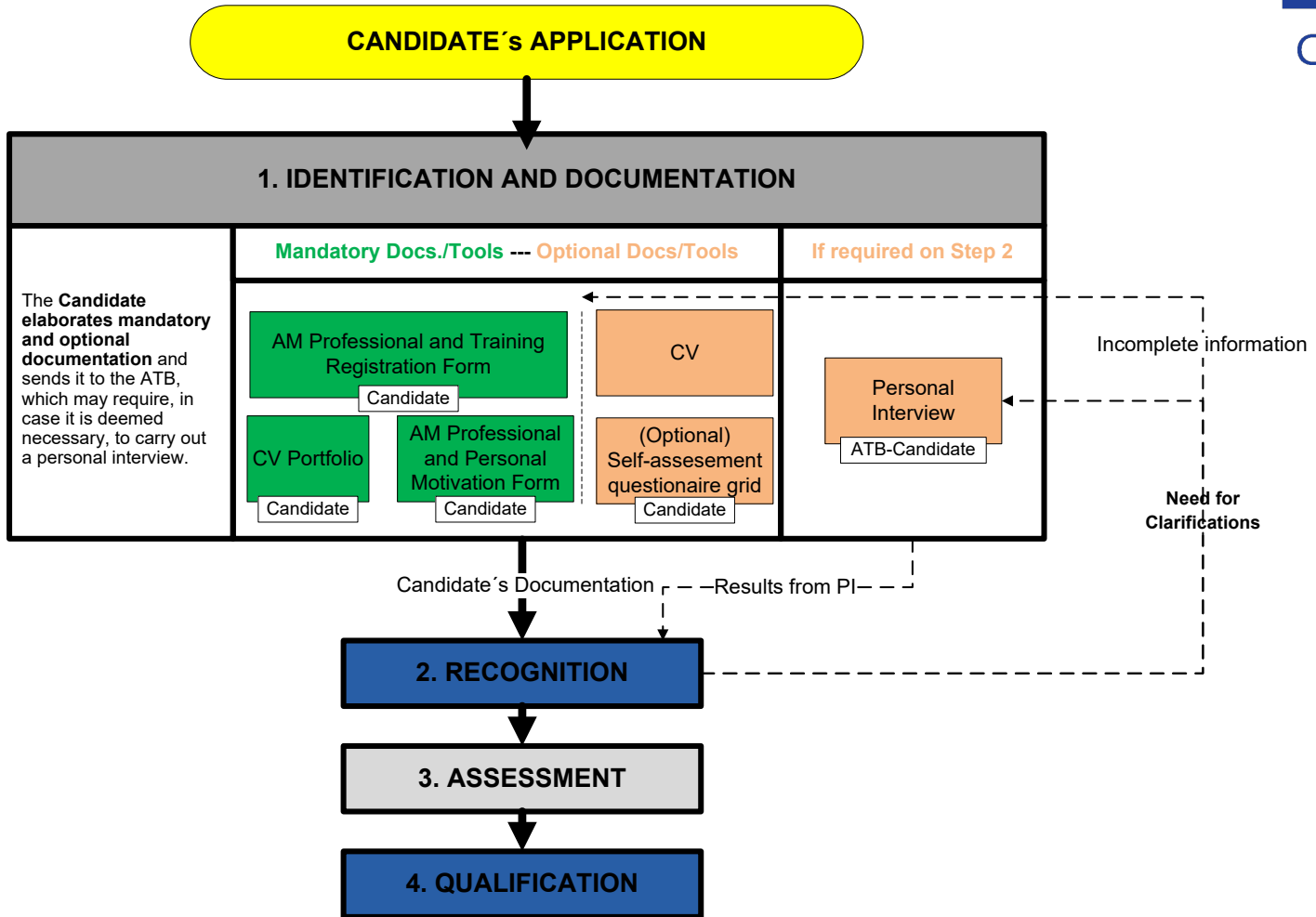


<b>CU59: Relevant principles of PBF Processes for Design</b>
<b>SUBJECT TITLE</b>
PBF process capabilities
PBF process limitations
Design Considerations

<b>Learning Outcomes –CU59: Relevant principles of PBF Processes for Design</b>	
<b>KNOWLEDGE</b>	Specialised, factual and theoretical of theory, principles and applicability of metal PBF processes and related technologies: <ul style="list-style-type: none"> <li>– Capabilities and limitations of PBF processes influence in design</li> <li>– Design considerations required for PBF parts design</li> <li>– Post processing influences in design</li> </ul>
<b>SKILLS</b>	Associate the degrees of freedom of a PBF machine to the possibilities in terms of design Relate the capabilities and limitations of PBF to design considerations Determine dimensional constraints and geometric tolerances required for PBF parts design Provide solution-based approaches to redefine design problems (Design thinking) within PBF processes and parts

This is what RPL assess for each candidate and for each CU





# Identification and Documentation Tools:

Mandatory

AM Professional and Training  
Registration form

AM Professional and  
Personal Motivation Form

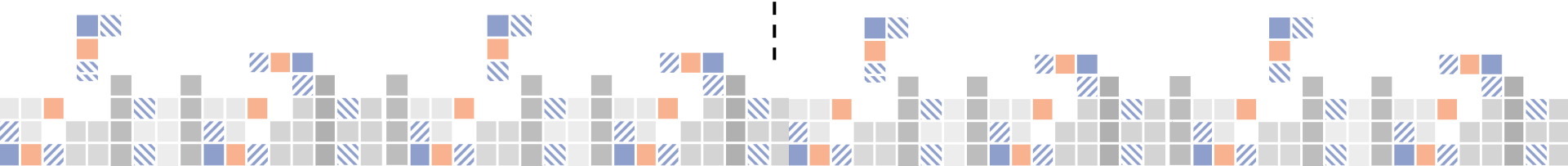
CV Portfolio

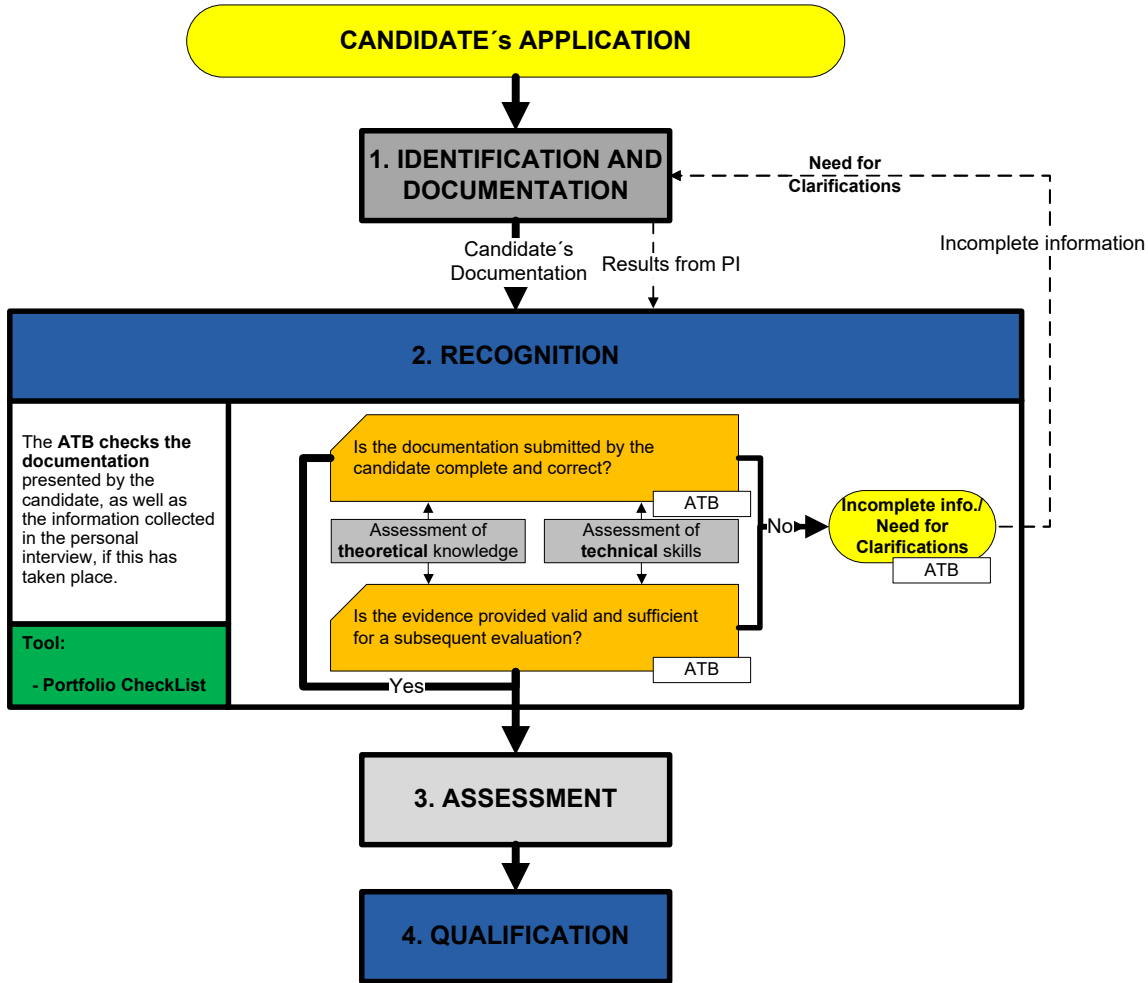
Optional

Candidate's Curriculum Vitae

Self-assessment  
Questionnaire/Grid

Personal Interview

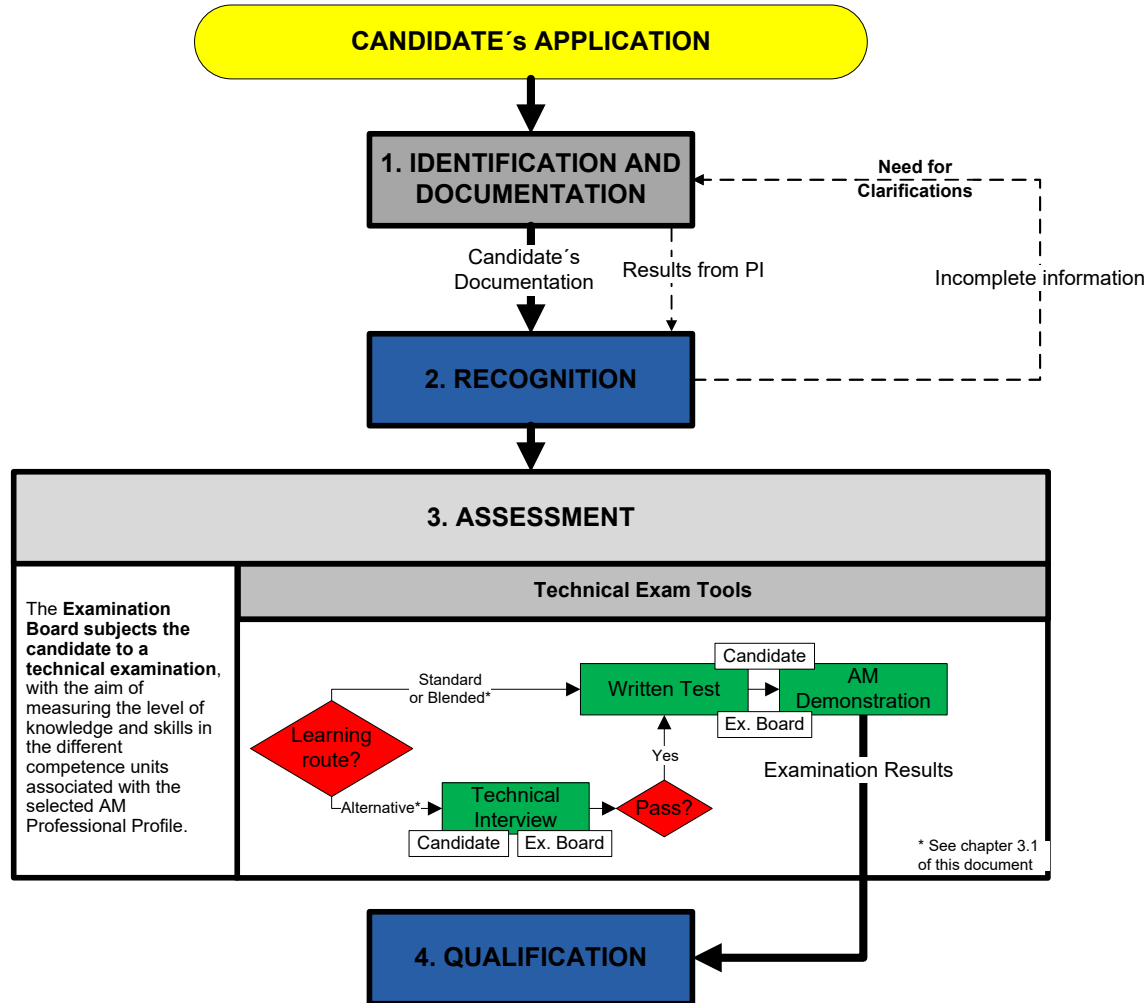




Recognition Tools:

AM Check-list portfolio

Portfolio technical review document

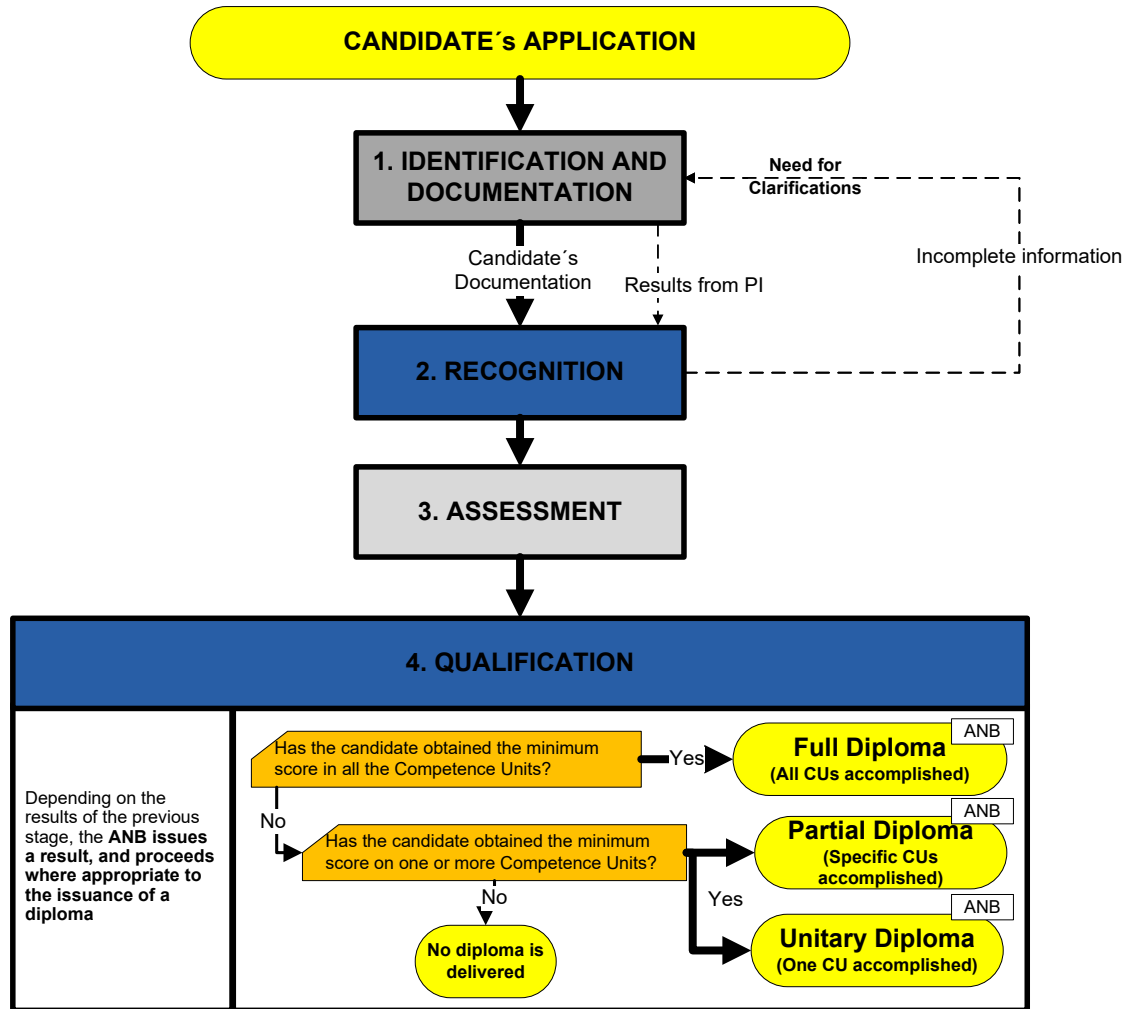


## Assessment Tools:

Technical Interview

Written Test

AM Demonstration





CLLAIM

**Thank you!**



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