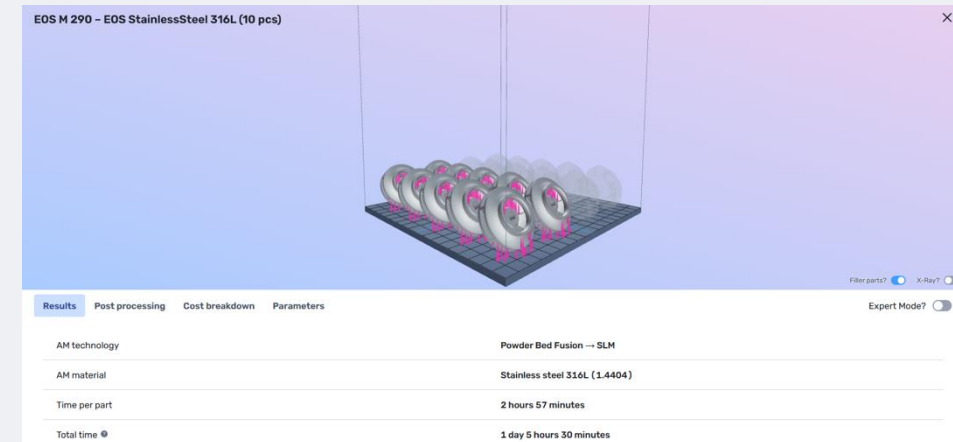
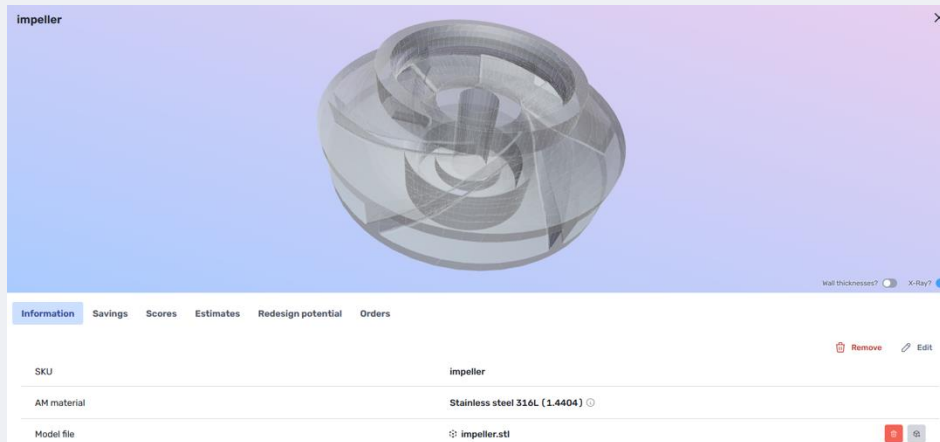


# Your gateway to **Additive Manufacturing**

Deep tech tools for use case identification

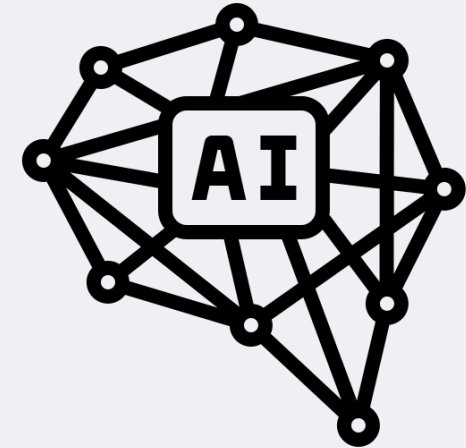
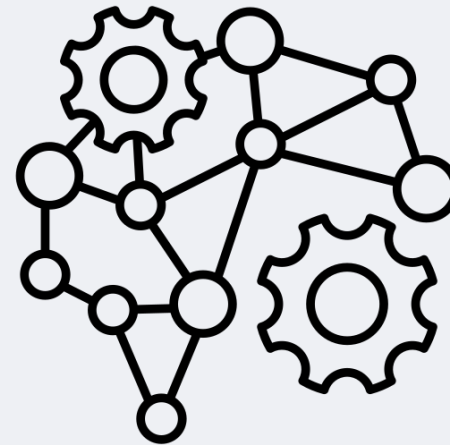
# SelectAM in brief



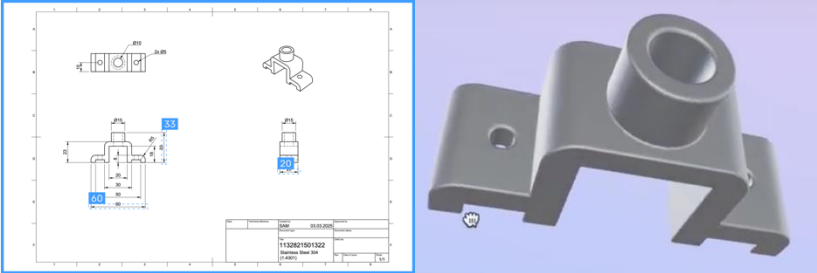
SelectAM provides end-to-end solutions and services for industry professionals to identify, qualify, digitalise, and order use cases for digital manufacturing, focusing on **additive manufacturing (AM)**.

# Use cases for deep tech in AM

1. In-process monitoring
2. Print process simulation and optimisation (1000 Kelvin)
3. Structural simulations (nTop)
4. Business case creation
5. Quality control (AI/ML/Computer Vision)
6. Design optimisation & automation (nTop)
7. Data transfer (blockchain)
8. Data augmentation
9. Data structuring
10. 2D pdf to 3D model conversion
11. Decision support systems
12. And many more...



# Some of our Deep Tech algorithms



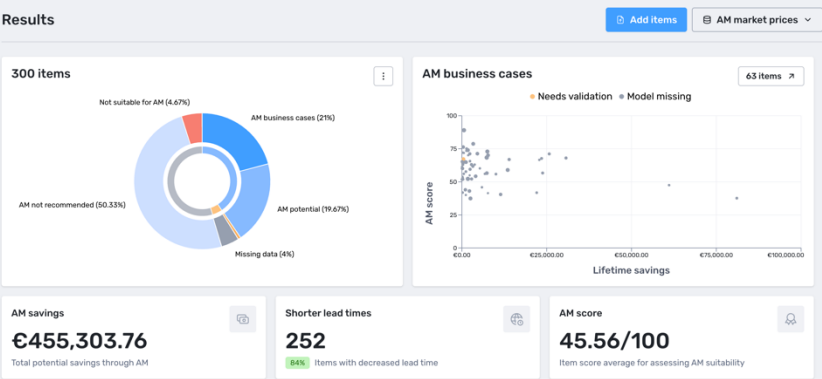
2D to 3D model AI

AM materials are automatically matched to the specified material information from the import file(s). Review the results and manually match the remaining materials.

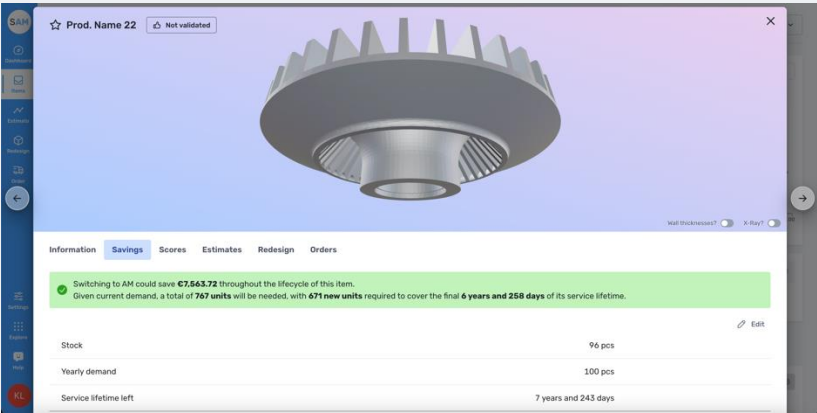
Assign materials per model

Occurrences	Material information	Assigned AM materials	Filter (2 materials)
10	Stainless Steel 316L	Stainless steel 316L (1.4404)	X
27	Aluminum Alloy 6061-T6	Aluminum alloy 6061-T6 (1.2304)	X
27	4140 chromoly steel (1.2220)	Substitute: Mangning steel HX50 (1.2705)	X
22	SS 316L	Stainless steel 316L (1.4404)	X
21	Nylon PA 12	Nylon PA 12	X
17	steel	Mangning steel HX50 (1.2705) / Stainless steel 316L (1.4404)	X
17	EN-43J 200 grey cast iron	Substitute: Stainless steel 316L (1.4404)	X
16	SA508H4 Cast Steel, 11231	Substitute: Stainless steel 316L (1.4404)	X
16	metal	Mangning steel HX50 (1.2705) / Stainless steel 316L (1.4404)	X
16	Nylon PA 11	Substitute: Nylon PA 12	X
9	Plastic	Nylon PA 12 glass filled	X
8	PII2	Nylon PA 12	X

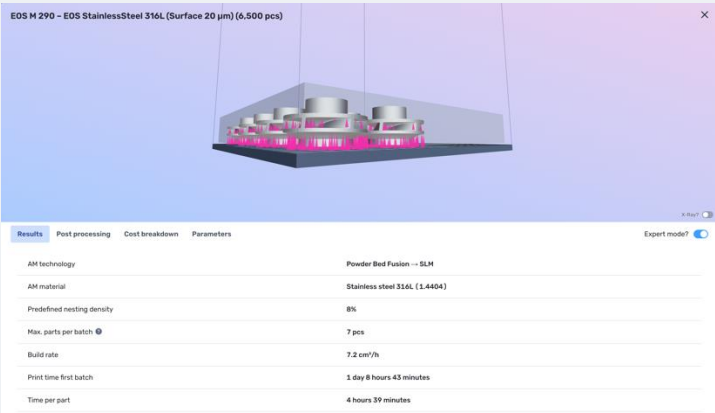
Material matching



NLP engine for data input



Qualification engine



Commercial process simulation engine

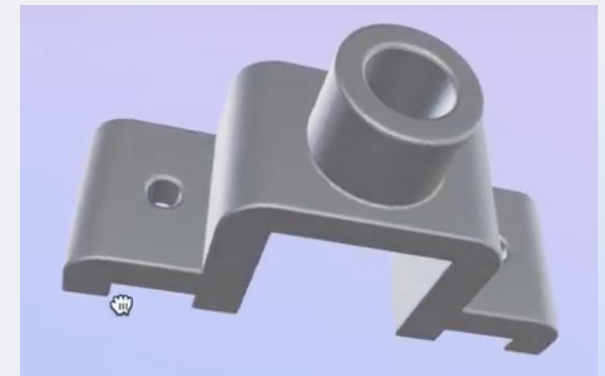
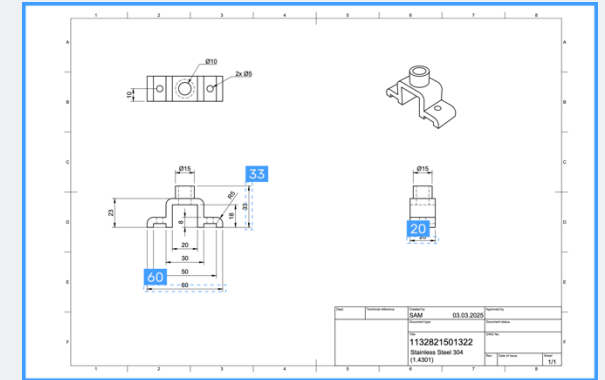


Redesign impact engine

Additionally, genAI and ML for AM Market Price engine without CAD files, nesting engine, slicing engine, costing engine, wall thickness assessment engine, feature recognition engine, data augmentation, data fragmentation

# Leap3D – Model digitalisation

- **Problem:** The operator only has 2D drawings (in .pdf format) of spare parts and obsolete components. The standard process is to manually model them in CAD software (2-3 working days), which is time-consuming and requires an expensive designer or service.
- **Solution:** Leap3D reads 2D drawings and converts the designs to 3D models in seconds. It can be used as a basis for digital manufacturing files AND in our identification process for data-driven decision-making for AM
- Use cases beyond additive manufacturing:
  - Digitalisation of component libraries – from physical to digital warehousing
  - Digital twin creation – models for factory simulations
  - Fast repair parts -> Defense, Oil&Gas etc.
  - Reverse engineering – especially in collaboration with scanning
  - Further: Architecture, education, VR/AR visualisation etc.



# Challenges and opportunities

## AM implementation challenges for companies:

1. Poor level of digitalisation
2. Access to AM technologies
3. Knowledge gaps related to AM
4. High cost to identify AM parts
5. Lack of business justification
6. “Boy who cried the wolf”-dilemma

**AM market represents below 0.5% of the global manufacturing market**



“Today there are 30 billion NOK worth in our physical inventories on the Norwegian Continental Shelf (NCS), and up to 80% will never be used”

Brede Lærum, Equinor

Source: “Guideline for on-demand manufacturing”, Norsk Industri & Offshore Norge, 2024

# Evolution of identifying parts for AM

## Traditional Manual Approaches

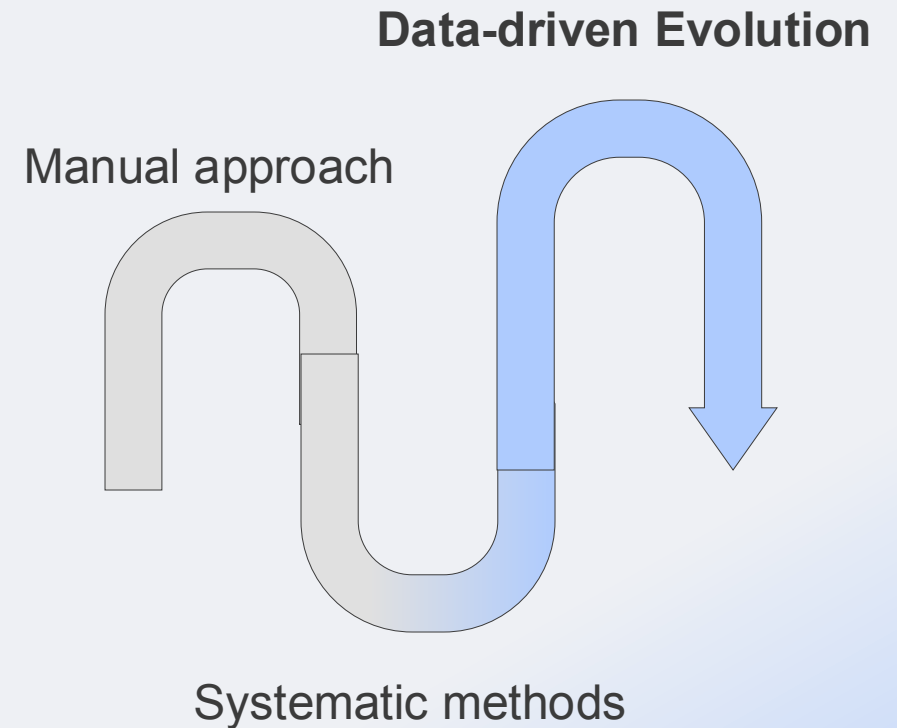
Individual expertise – AM specialist  
“gut feeling” / trial and error

## Early Systematic Methods

Frameworks (Excel)  
Focus on a few technologies

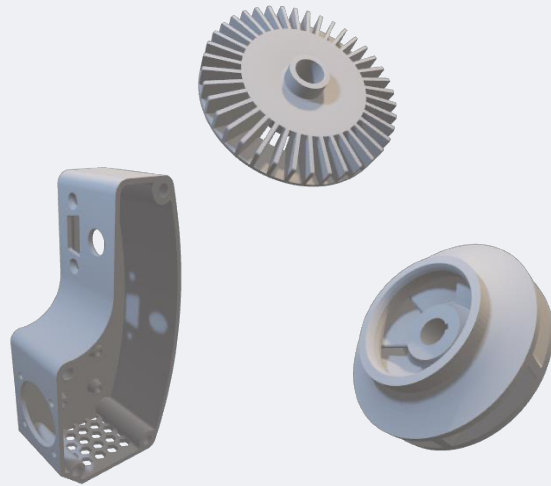
## Data-Driven Evolution

Bias-free evaluation  
AI-powered automation/optimisation





# Where should you use AM?

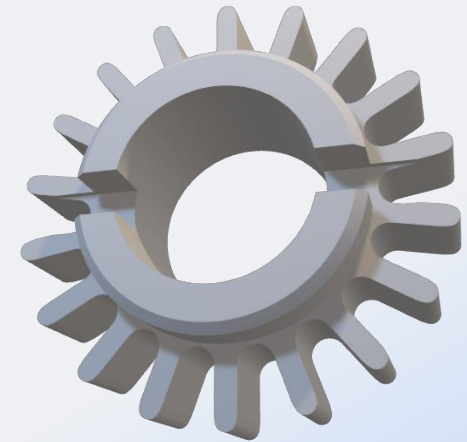


- Prototypes and product development (affordable, easy to iterate)
  - Functional, Visual, Ergonomic, and Mould iterations
- Production tools (quick, easy to iterate)
  - Fixtures, Jigs, Etc.
- End products (reasonable up to a critical point)
  - 0-series/bridge
  - Low to mid-volume / high-value
  - Engineer-to-Order
  - Customised or tailored products
  - Complex-shaped parts
- Spare and repair parts (often the best option to save time and money)
  - Legacy & Obsolete parts
  - "Band-Aids"

# Apply SelectAM to unlock value







Implementing our data-driven workflow can result in:

- Evaluation time reductions by up to 90 %
- Identify more components for AM
- Decisions backed up by data
- Reduced implementation costs by 50%
- Reduced complexity with fewer input parameters



How? Quick setup, Top-down, CADs optional, automated

# Minimal data requirements to get initial estimates

	Minimum	Exact	
AM cost and price comparisons	<ul style="list-style-type: none"> <li>Weight/volume</li> <li>Material</li> <li>CM cost</li> </ul> 	<ul style="list-style-type: none"> <li>Weight/volume</li> <li>Dimensions</li> <li>Material</li> <li>Quantity/Yearly Demand</li> <li>CM cost</li> <li>SKU/name</li> </ul> 	<ul style="list-style-type: none"> <li>CAD</li> <li>Material</li> <li>Quantity/Yearly Demand</li> <li>CM cost</li> <li>SKU/name</li> </ul> 
TCO comparisons	<ul style="list-style-type: none"> <li>Weight/volume</li> <li>Material</li> <li>CM cost</li> </ul> 	<ul style="list-style-type: none"> <li>Weight/volume</li> <li>Dimensions</li> <li>Material</li> <li>Yearly Demand</li> <li>CM cost</li> <li>SKU/name</li> <li>MOQ</li> <li>Stock</li> <li>Remaining service lifetime</li> </ul> 	<ul style="list-style-type: none"> <li>CAD</li> <li>Material</li> <li>Yearly Demand</li> <li>CM cost</li> <li>SKU/name</li> <li>MOQ</li> <li>Stock</li> <li>Remaining service lifetime</li> </ul> 
Lead time comparisons	Lead time	Lead time	

# Find the needle in a haystack

☆ Prod. Name 18 👍 Validated ✕



Wall thicknesses? ☐ X-Ray? ☐

Information Savings Scores Estimates Redesign Orders

✓ Switching to AM could save **€27,306.27** throughout the lifecycle of this item.  
Given current demand, a total of **742 units** will be needed, with **668 new units** required to cover the final **6 years and 247 days** of its service lifetime.

# SelectAM

On-demand manufacturing software

Kalle Lepola

Chief Business Officer

kalle@selectam.io

+358(0)505124278

<https://selectam.io>

SelectAM Oy // Lapinlahdenkatu 16 // 00180 Helsinki

