

# Achieve repeatable results with more confidence

With more companies crossing the border from prototyping to serial production with additive manufacturing, the demand for reliable data for materials and built parts is growing. That's why EOS decided to establish a guideline for the maturity and technology readiness of the materials and processes it offers – both for metal and plastic.

By introducing Technology Readiness Levels (TRL) to additive manufacturing, we propose a new guideline, to make it much easier to compare our technology to traditional manufacturing technologies and to

enable easier and faster development of serial applications. The concept of TRL was developed by NASA and is well established in many industries.

## EOS Premium Materials and Processes:

Experience a new level of data on built parts and repeatability

Premium products are highly validated, which is why we do not only provide information on powder properties, but also values for mechanical part properties, including number of test specimen, statistic deviation and localization of achievable values over build area/volume. Depending on the extent of statistics and kind of tested properties, these products achieve TRL 7, 8 or 9. This means a rock solid baseline, further underlining repeatable and robust quality of EOS Premium products.

## EOS Core Materials and Processes:

Gain more speed and freedom EOS Core Materials & Processes

The Core category ranges from concepts to products with verified key properties (TRL 3-6). These products are developed to be available on the market as fast as possible, also meaning that these products have been tested less extensively. Nevertheless, Core products offer a good baseline for further development (by the customer or supported by EOS) and enabling early access to new materials and processes.

## Various benefits for you:

- Higher security on repeatability in serial production
- Transparency on maturity of materials and processes
- Easier choice of materials for specific applications
- Faster time-to-market due to extensive data for mature materials and processes
- More predictable results in development and production



Please ask our material experts to learn more!



# Establishing new industrial guidelines in additive manufacturing

Benefit from transparency and more data than ever before on materials and processes for additive manufacturing. EOS clearly marks the maturity of each product along the Technology Readiness Levels (TRL) and invites the whole AM industry to do the same.

## Product Category EOS

Premium	<b>Full Capability:</b> Production capability is fully confirmed and an extensive database has been established	TRL 9	Customized
	<b>Extended Capability:</b> Production capability is further confirmed by more extensive testing	TRL 8	
	<b>Capability:</b> Production capability is confirmed based on the defined test matrix.	TRL 7	
Core	<b>Validation:</b> Capability of the technical solution is tested based on a standardized test procedure (SOP)	TRL 6	
	<b>Design Freeze &amp; Verification:</b> Basic capability of the technical solution is demonstrated.	TRL 5	
	<b>Development:</b> Optimization of process parameters and part properties against requirements	TRL 4	
	<b>Concept Proof:</b> Experimental proof of concept is completed. Build simple geometries on EOS systems.	TRL 3	
	<b>Feasibility Test:</b> Proof that material can be processed.	TRL 2	
	<b>Evaluation:</b> Scientific research begin to be translated into applied research and development	TRL 1	

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