

## TechConnect Ventures

### Sprint Challenge Brief:

# Novel Materials to Enable High-Resolution 3D Printing of Complex Parts Sprint

Sprint Submissions Closed

## BACKGROUND

In collaboration with multiple global industrial partners, TechConnect Ventures is calling for Entries describing innovative materials, material enhancements and material engineering solutions to enable improved high-resolution additive manufacturing, 3D printing, 4D printing, and/or rapid prototyping that exceeds current standards. The goal of this enhanced resolution in the additive manufacturing process is to create parts (e.g. models, samples, components, spare parts, etc.) that do not require further post-processing or treatment such as machining or drilling. Materials that are applicable to any of the commercial additive manufacturing processes currently available (SLS, FFF, SLA, SLM, EBM) will be considered.

## REQUIREMENTS

Material innovations addressing any aspects of 3-D printing resolution will be considered including, but not limited to:

- Improvements in Z resolution
- Improvements in X/Y resolution
- Improvements to the overall complexity of the finished, printed part
- Decreased minimum feature size
- Layer thickness accuracy and layer ovality
- Maintain or enhance robustness and durability

This call is open to all Entries that can address the structure and properties of these materials in all commercially available 3-D printing technologies including, but not limited to:

- Research, prototypes and/or commercial products related to additive manufacturing materials (metals, powders, alloys, ceramics, polymers, shape memory materials, etc.)
- Materials discovery
- Computational approaches to simulate material design and performance

In addition to the criteria above, you are highly encouraged to highlight any additional material characteristics or performance properties that differentiate your technology including, but not limited to, low cost manufacturability and environmentally-friendly/sustainable materials and processes.

## BUSINESS OPPORTUNITY FOR SOLVERS

All complete and eligible Entries will be included in an exclusive Innovation Opportunity Report that will be presented to our consortium of innovation-seeking clients and partners. Solvers with well-matched capabilities may be contacted directly by consortium members to discuss potential partnership opportunities. Top-rated Entries may also be invited to register or participate in an upcoming TechConnect Ventures event or pitch program.

## PARTICIPATION RULES & GUIDELINES

Solvers are encouraged to review the Rules and Guidelines provided on the Sprint page for details about participation, including submission criteria, eligibility information, and more.

**QUESTIONS?** Contact Executive Director, Nick Kacsandi at [info@techconnectventures.com](mailto:info@techconnectventures.com)