

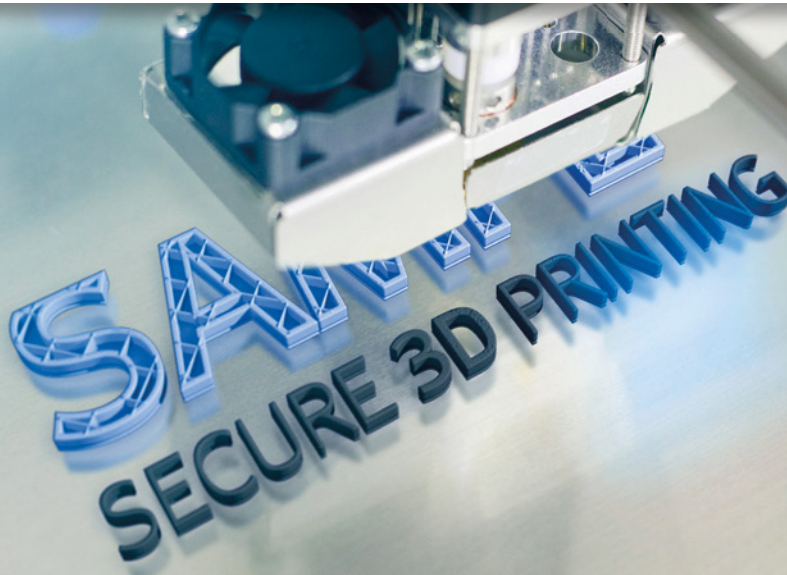
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# SAMPL

## SECURE 3D PRINTING



# LICENCE TO PRINT

The project is in the final phase - we are looking for pilot implementation partners!

## Your requirements:

### Secure provision of 3D print data worldwide

- Are you a manufacturing company that uses additive manufacturing processes and needs to ensure that only authorized people have access to the 3D print data and that only the original data is printed?
- When using additive manufacturing processes, do you want to prevent print data from falling into the wrong hands and being misused to manufacture pirate copies following its authorized use?
- Do you want to avoid unwarranted product liability lawsuits involving pirate copies manufactured using misappropriated data and be able to distinguish between original products and pirate copies?
- Are you a global company that wants to reduce warehousing and transportation costs by manufacturing spare parts on demand and locally where they are needed without compromising your intellectual property when sending the 3D print data?
- Are you a service provider for additive manufactured parts that takes customers' security requirements seriously and wants to become part of an end to end chain of trust for additive manufacturing?
- Are you a manufacturer of 3D printers and want to make it possible for your customers to satisfy copy protection requirements and thus become part of the end-to-end chain of trust?

## Our solution:

### Chain of Trust for additive manufacturing

SAMPL is a consortium project funded by the German Federal Ministry for Economic Affairs and Energy (BMWi) within the framework of the PAiCE program with the aim of developing an end-to-end security solution for additive manufacturing processes like 3D printing. The solution secures the entire process, from creating the digital 3D print data to exchanging the data and printing it on specially protected 3D printers right through to tagging the printed components using RFID chips or other methods that ensure traceability.

SAMPL is based on the data exchange solution OpenDXM GlobalX from PROSTEP, which, in addition to the existing encryption mechanisms, has been expanded to include a digital license management facility based on blockchain technology.

Blockchain technology comprises methods for verifying the authenticity of transactions and is used for digital payment transactions involving Bitcoins for example. However it can also be used for issuing licenses for printing a defined number of parts. The information is provided in "smart contracts" which are developed within the framework of the SAMPL project.

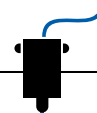
Implementation of the blockchain technology is being performed by the company consider it. NXP Semiconductors provides the secure elements for connecting the 3D printers to the blockchain and the RFID chips for tagging the printed components.

The EOS subsidiary 3D MicroPrint, a competent provider of industrial 3-D printers, is also a partner in the project and ensures the integrity of the chain of trust, from the rights holders to the 3D printers.

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### Benefits:

## Use the advantages of 3D printing without risks

- + Both the technology and the materials for additive manufacturing are continuing to develop at a rapid rate. This is resulting in an ever-growing number of new use cases involving the secure exchange of 3D print data. SAMPL allows you to trace at any time which data is being processed on which devices.
- + The use of additive manufacturing processes, e.g. for the production of samples and prototypes, helps reduce development times. With SAMPL, you can have parts printed by external service providers without running any security risks.
- + Spare parts provisioning is a production and logistical challenge, and if a spare part is needed, it requires an agile response in order to prevent long downtimes.
- + SAMPL enables you to manufacture spare parts on demand and locally where they are needed with powerful copy protection. This allows you to reduce your capital commitment and also save on warehousing and transport costs, as well as shorten your delivery time.
- + SAMPL makes it possible for you to implement the traceability of your components in the blockchain in a way that is transparent and cannot be modified.
- + By applying SAMPL-Technology, you have the opportunity to use latest research and standardization results and present your company's innovative strength to the market. As an early adopter, you gain a competitive time to market advantage with respect to other market players.
- + Use innovative disruptive technologies like 3D printing and the blockchain to develop new, service-oriented business models. SAMPL provides you with the support you need.

### Partner:



# SAMPL

## SECURE 3D PRINTING

### SAMPL Project – Contact:

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