



# Application Validation

**ASSESS THE TECHNICAL FEASIBILITY AND ECONOMIC VIABILITY OF USING 3D PRINTING AS A MANUFACTURING METHOD FOR YOUR CONCEPT, PART OR PROPOSITION**

**WITH AN EVER-INCREASING NUMBER OF 3D PRINTING TECHNOLOGIES AND MATERIAL OPTIONS, HOW DO YOU DECIDE ON THE MOST APPROPRIATE SOLUTION FOR YOUR CONCEPT, GIVEN THE SHEER NUMBER OF VARIABLES TO CONSIDER.**

Does your concept have specific mechanical requirements, will it be in contact with the body, does it require chemical resistance or will it be painted and laquered? In order to meet the specific requirements of your concept, the right combination of process, platform, material and post-processing must be selected from a wide range of options. Being able to identify the most appropriate solution is often a steep challenge for companies looking to move from concept to a 3D printed end-part.

At Stratasys Consulting, we can accelerate this process by looking at your distinct application with its specific mechanical, environmental, regulatory, supply chain and economic requirements in order to assess the most appropriate machine, material and post processing combination. Our Application Validation service provides experienced support to companies looking to move towards either capital investment in 3D printing hardware, the development of an outsourced supply chain or increase in their current 3D Printing utilisation.

## **WHO IS THIS FOR?**

Application Validation is for those who need to provide due diligence before committing to a manufacturing process. This service is for companies looking to either build new products using 3D printing, transition existing products to an additive manufacturing process, or evaluate other applications for their current AM utilisation. Design engineer, product managers, manufacturing engineer or procurement will be the most interested by this service.



## **WHEN IS IT RIGHT TO VALIDATE YOUR APPLICATION?**

- ARE YOU UNSURE AS TO WHETHER 3D PRINTING IS THE MOST EFFECTIVE METHOD OF PRODUCING YOUR PART?
- DO YOU NEED TO PROVIDE DUE DILLIGENCE BEFORE COMMITTING TO 3D PRINTING?
- ARE YOU CONFUSED WHICH OF THE MANY 3D PRINTING PROCESSES, PLATFORMS AND MATERIALS IS MOST APPROPRIATE FOR YOU CONCEPT?
- ARE YOU STRUGGLING TO FULLY UNDERSTAND THE TRUE COST OF 3D PRINTING OWNERSHIP MAKING IT DIFFICULT TO CALCULATE AN ROI AND BUILD A ROBUST BUSINESS CASE FOR ADOPTION?

# Application Validation

## ASSESS THE TECHNICAL VIABILITY AND ECONOMIC FEASIBILITY OF USING 3D PRINTING

### WHAT RESULTS CAN YOU EXPECT

- Identify if there is a suitable 3D printing solution for your application.
- Identify what design changes need to be applied to maximize the benefits of 3D printing.
- Understand the technical constraints of 3D printing that may need to be considered to enable adoption.
- Understand the impact of production volumes and batch size on piece-part cost.
- Robust evaluation of available technologies and materials allowing rapid technology adoption.
- Robust economic analysis support ROI calculations and CAPEX budgets.

**Stratasys Consulting's Application Validation is a highly structured way of assessing and identifying the most appropriate technology solution for your given application.**

From our 15 years of experience in additive manufacturing consulting, we apply our highly structured methodology to assess and identify the most appropriate 3D printing solution for your given application.

We have defined a five stage process that determine the total viability of the application. In this process, we review the requirements of your concept to identify what material is most suitable, then identify which process and technology platform can process that material to the necessary volume, cost and tolerance.

We not only look at technical feasibility but also at environmental, economic and regulatory constraints to assess the viability of using 3D printing for your application.

Once we have identified the most feasible 3D printing solution for your concept, we conduct a GAP analysis to provide you with a roadmap for technology adoption or development.



#### IDENTIFY YOUR REQUIREMENTS

Through personnel interviews, part analysis and industry analysis, we understand and quantify the technical, mechanical, market and economic requirements of your application from loading conditions to biocompatibility.

**DURATION 2-3 WEEKS**

#### OUTCOME

REQUIREMENTS LIST FOR CONCEPT ASSESSMENT



#### IDENTIFY MATERIAL & HARDWARE

Based on our extensive knowledge and by applying our proven assessment methodology, we determine the necessary materials, hardware, software and other factors required to realise the concept.

#### OUTCOME

TRL OF REQUIRED MATERIALS, HARDWARE ETC



#### OPTIMIZE DESIGN FOR PROCESS

The design of the component or concept is reviewed then optimized for the most appropriate 3D printing process both to maximize the benefits for 3D printing whilst simultaneously minimizing 3D printing costs.

#### OUTCOME

OPTIMISED PART/ CONCEPT DESIGN BASED ON REQUIREMENTS



#### DEVELOP ROBUST COST ANALYSIS

We use proprietary analysis tools to measure the piece-part economics in a variety of production scenarios considering metrics such as production volumes and data preparation to material waste and labor.

#### OUTCOME

3D PRINTING MANUFACTURING COSTS



#### DETERMINE GAPS AND INVESTMENT

Based on the findings, we will either recommend the most suitable technology platform to produce your part/s or develop a roadmap detailing the activities necessary for you to develop a viable solution.

#### OUTCOME

TECHNOLOGY RECOMMENDATION OR DEVELOPMENT ROADMAP

**stratasys**  
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