Corporate Name:

Cyient Ltd.

Domain:

Transportation / Aerospace

Potential Engagement:

Leverage start-up ecosystem to co-develop market-ready solutions addressing key industry challenges

Problem area:

Aircraft component design is a complex, iterative process. It is necessary to develop a new approach or methodology to achieve an optimized design solution of aero engine components suitable for additive manufacturing

Problem Definition:

Conventionally, component design is an iterative process requiring multi-dimensional assessments to achieve manufacturability of the component. In the process, weight of the component may need to be trade-off resulting in weight penalty. However, in current state, it is a complex task to identify the components suitable for 3D printing.

Expected Solution:

AI / ML based automation engine assists in the design & structural analysis to achieve optimized component geometry. Here is a brief description of the work scope:

•Identify, sort & prioritize the components based on specified dimension & material of the parts from master database using python code.

•Develop ML algorithm based self-learning system that leverages legacy repository to perform structural analysis.

•Validate the structural integrity

The proposed solution is expected to reduce the design cycle time significantly and helps in decision-making process

In the POC stage, solution can be demonstrated for one or two aircraft components which can be scaled to multiple other complex geometry parts.

Commercial Expectations:

Need to be discussed at a later stage

Implementation timeline:

Open for discussion