LANGUAGE OF COLLABORATIVE MANUFACTURING

The Digital Footprint of Engineering Design Projects

Sensors for project health monitoring

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The global value of major engineering projects is estimated at **$3,000,000,000USD**

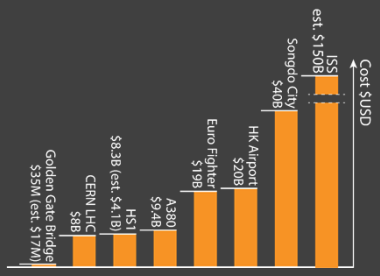
With the US DoD estimated to lose

$150,000,000USD

per day due to delays and overruns

Globally, from major engineering projects, this equates to

$1.2M LOST PER MINUTE



More than [ ] employees in [ ] countries

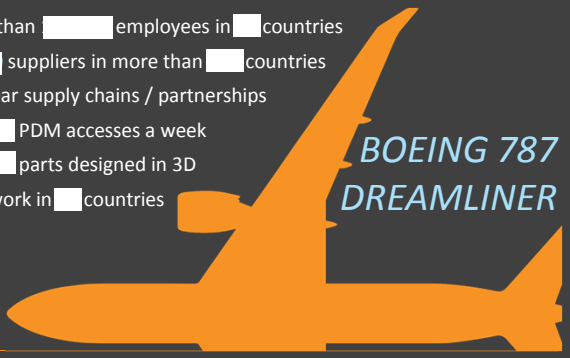
[ ] suppliers in more than [ ] countries

[ ] year supply chains / partnerships

[ ] PDM accesses a week

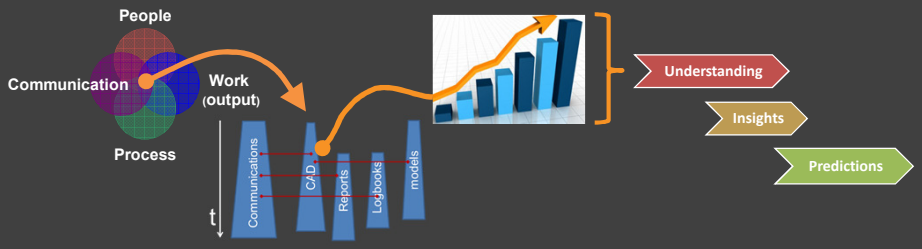
[ ] parts designed in 3D

R&D work in [ ] countries



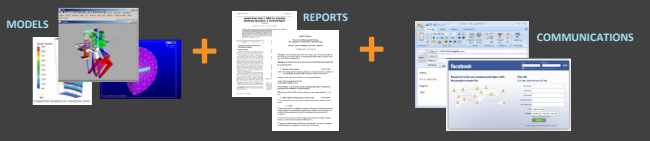
Project aim

What understanding, insights and predictions can be generated about engineering projects through an understanding of the changing content and structure of the digital assets produced?



ePHM is …

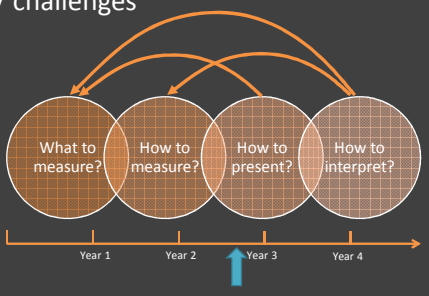
1. Based on Digital Assets and features of a project.



2. Includes a suite of information analytics (methods) to reveal the state of a project in between stage gates.

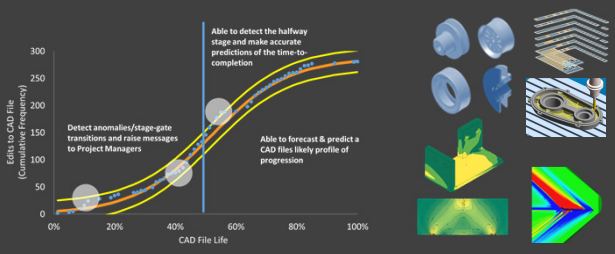
3. Uses dashboards to:
   - Transform PMs into evidence based hypothesis testers;
   - Provide user-in-the-loop monitoring and feedback (control); and
   - Enable root cause analysis to be undertaken and the impact of an intervention to be assessed.

Project structure / challenges

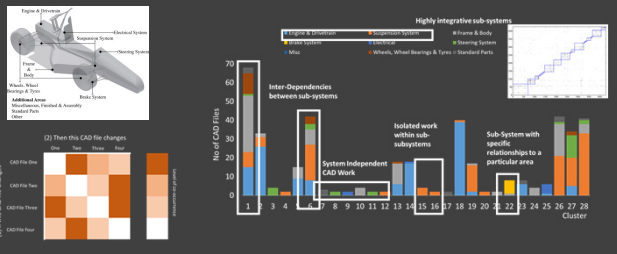


MODELS

Model and predict CAD & FEA model evolution including: time to completion and identifying potential issues (non conformance).



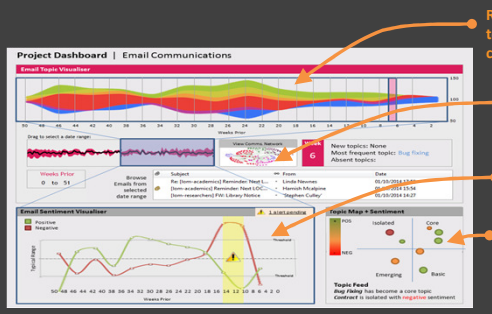
Reveal model/product dependencies through co-occurrence analysis.



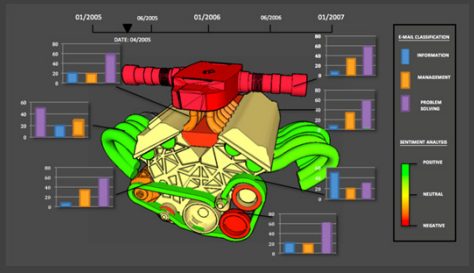
Real time prediction of project complexity based on work request (content) and continuous monitoring based on transactions (sequence) and comparison historical workflows.

REPORTS

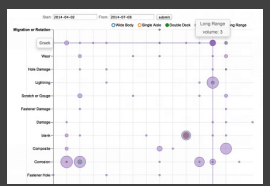
COMMUNICATIONS

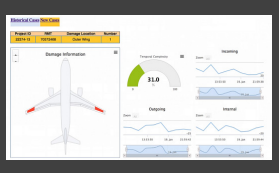


Visualising the purpose and sentiment of emails w.r.t. the product.



Analysis of trends across project archives (content analysis of reports) & real time project monitoring dashboards (project and programme monitoring).





REPORTS

153,000 employees in 70 countries; 43 countries; 13,000 suppliers in 100+ countries; 300,000 parts; 75,000-100,000