Engineering a data-driven approach to deliver smarter maintenance

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September 2018
What's the ROI?

Which technical approach?

Can I trust the data?

Do I have the right data?

Do I have enough data?

How long will it take?

How much will it cost?

What accuracy is needed?

How much will it cost?

How much of an improvement will it make?

What’s the ROI?

How do I keep the solution up to date?
How do you maximise effort on successful projects while minimising effort on ones that would fail?
Business objectives

Deployment

Data

Solution
Business objectives

- Where are the maintenance issues?
- How much is an issue costing?
- What is the potential benefit?
Data

• Initial evaluation (quantity, quality, bias…)
• Does the available data constrain your solution?
• Have you missed potential sources of data?
High level liquid waste → Calciner (600 - 840°C) → Granular waste → Melter → Glass additives → Vitrified waste for storage
Solve

• Evaluate multiple approaches
• Understand trade-offs
• Be prepared to stop
Unpredictable production failures causing loss of high value product and serious manufacturing delays

Up to $1 million losses incurred per failed batch

Very limited data available
Deploy

• Is your solution ready?
• Deploy now and refine in-service?
• Ensure solutions are used and remain viable
Conclusion

Data science without control is a recipe for disaster
Need a flexible data science framework to maximise progress under uncertainty
Cover the full lifecycle from business need to deployment