

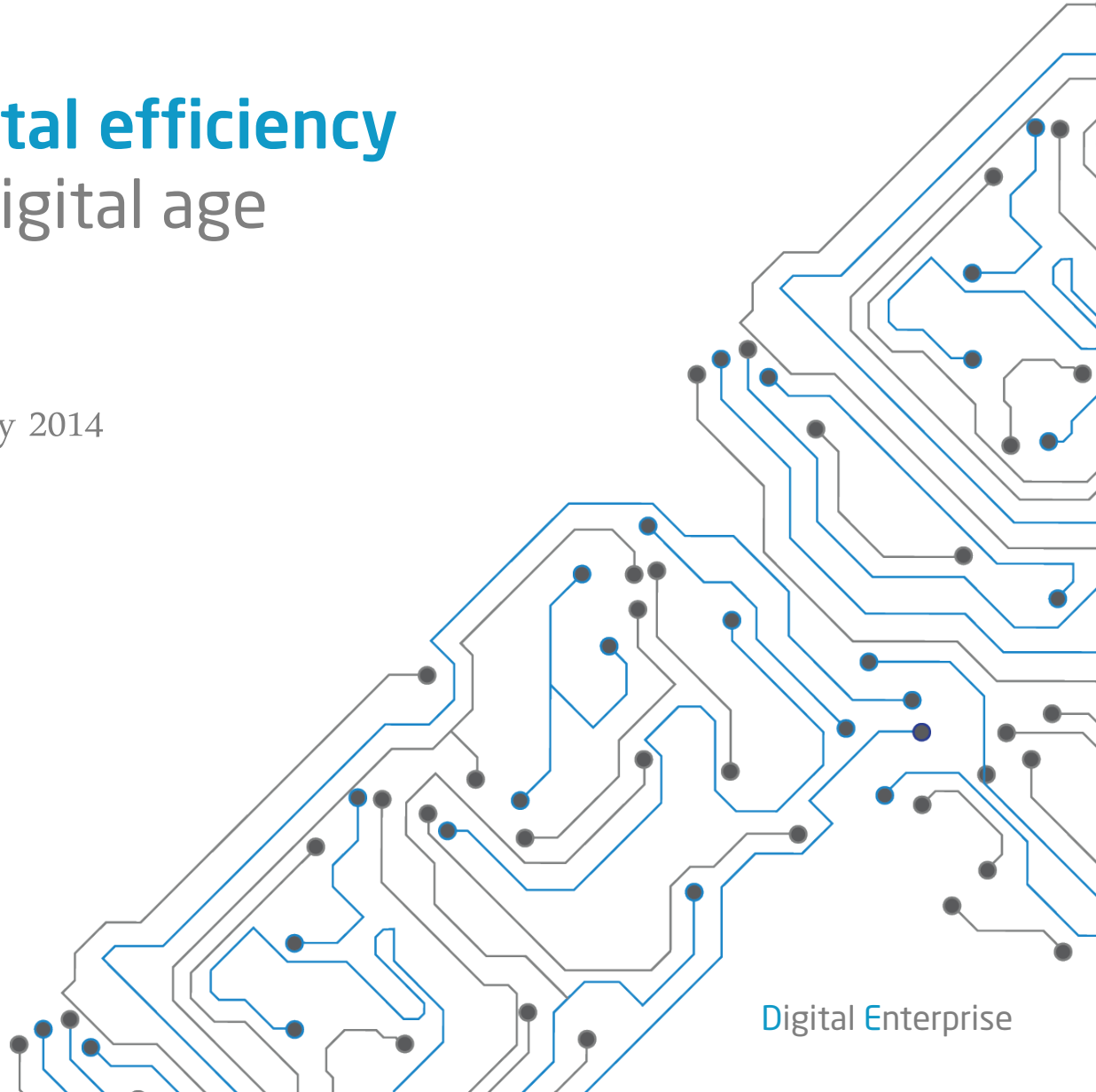


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# Taking on the **capital efficiency challenge** in the digital age

Andrew Wood

Melbourne Mining Club – 3 July 2014



# Underground Mine Construction Safety in South Africa



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Impala Shaft 17 - South Africa



# Underground Mine Construction Safety in South Africa

Challenges in underground mining



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## WorleyParsons has helped establish:

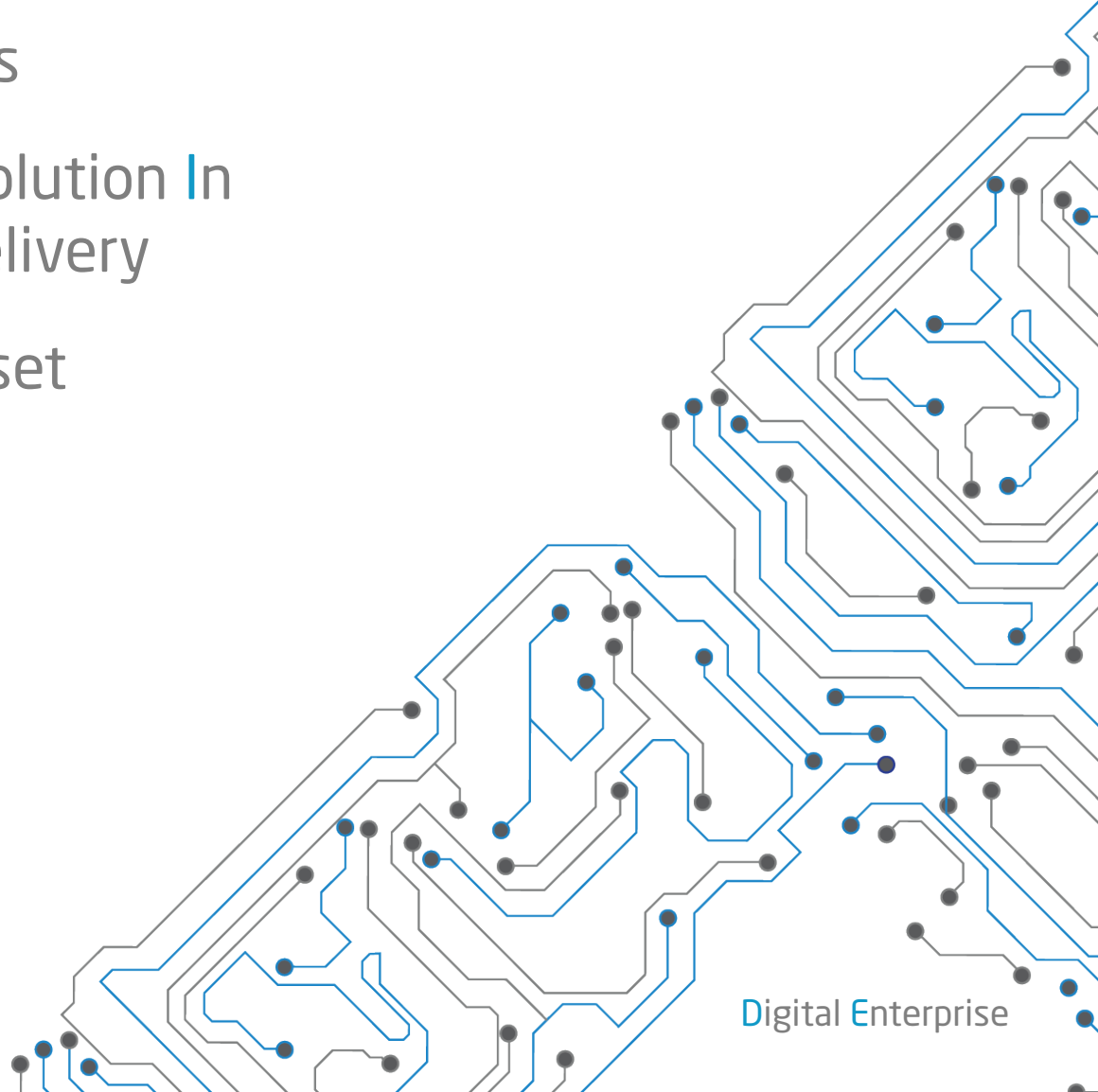
- Incident Review Boards
  - Include shaft sinking contractor organisations
- Shaft sinking Contractor HSE Director Network
- Shaft sinking Contractor CEO Safety Forum
  - Share industry learnings
  - Prioritise focus areas and sponsor actions

# Agenda



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- 01** Industry Challenges
- 02** Digital Evolution In Project Delivery
- 03** Digital Asset Concept
- 04** Digital Horizons
- 05** Lets Get Started



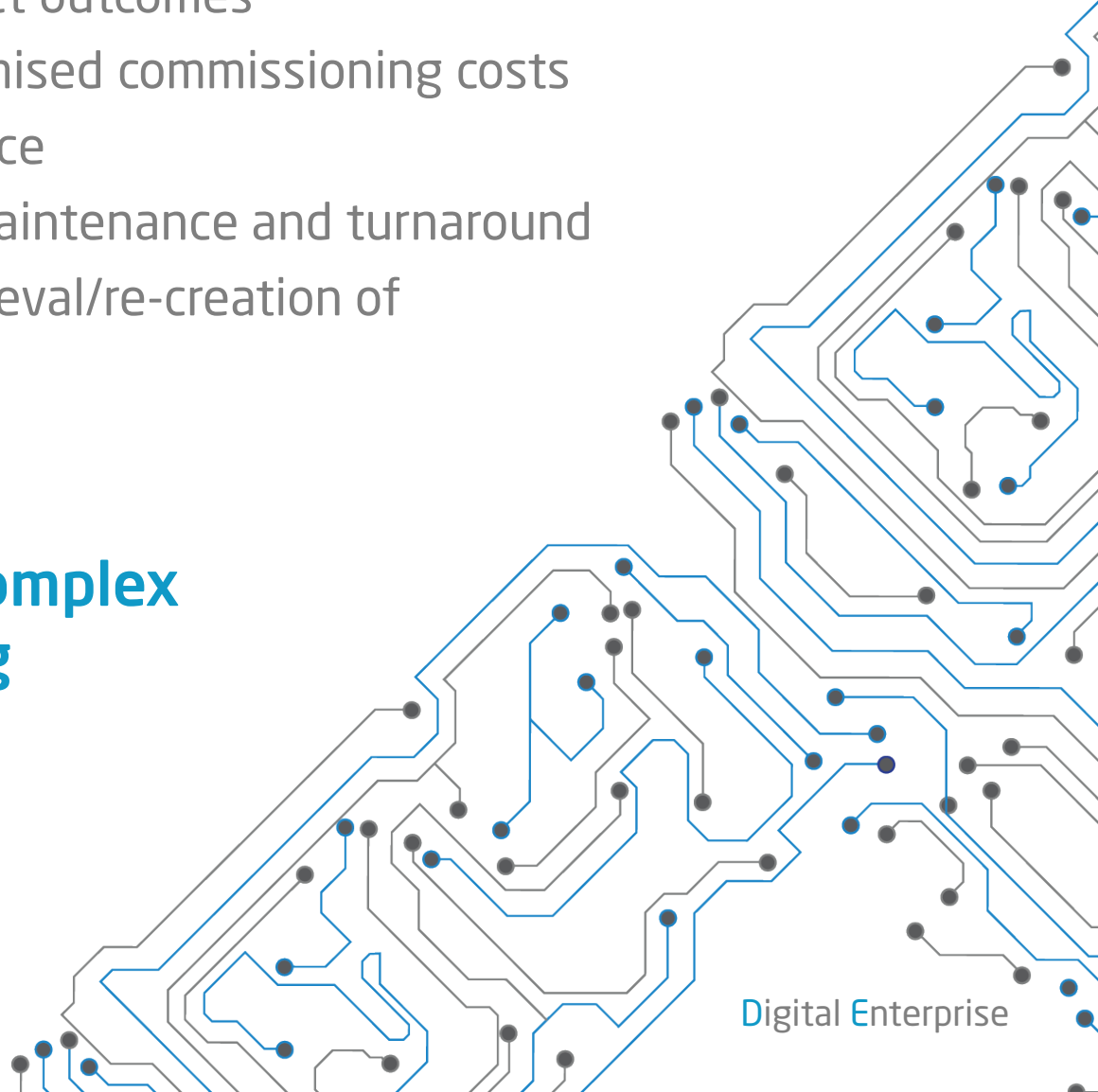
# Industry Challenges



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- Achieving predictable project outcomes
- On time start-ups and minimised commissioning costs
- Optimising asset performance
- Efficient and streamlined maintenance and turnaround
- Enabling cost effective retrieval/re-creation of data to support operations
- Improving HSE performance

**Increasing clarity for complex capital decision making**

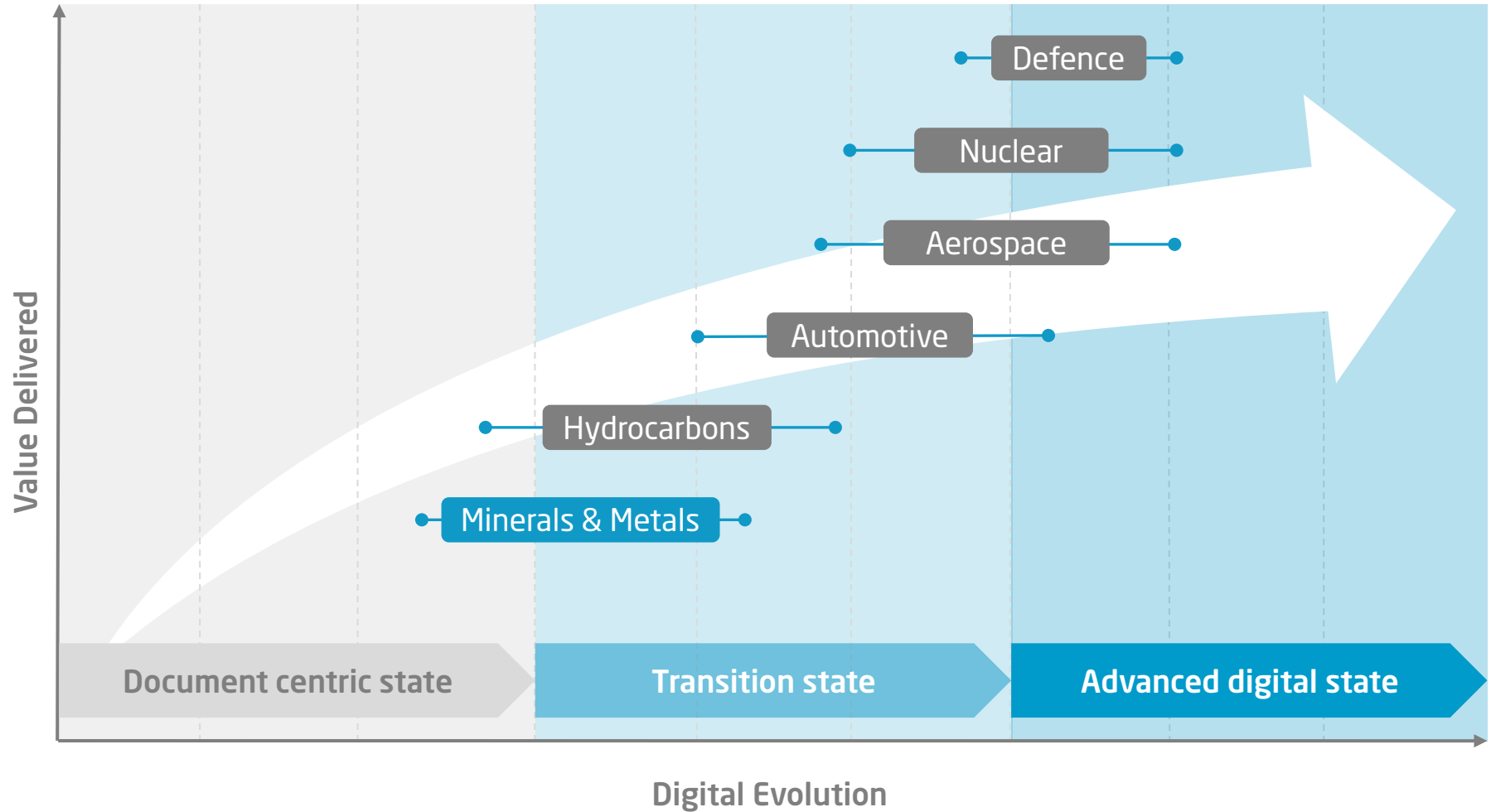




# Digital Evolution In Project Delivery



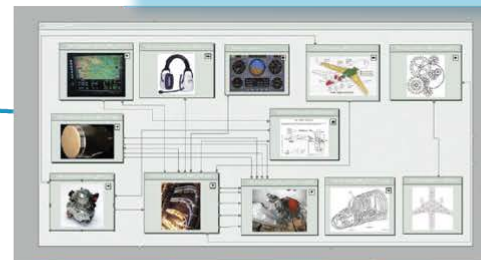
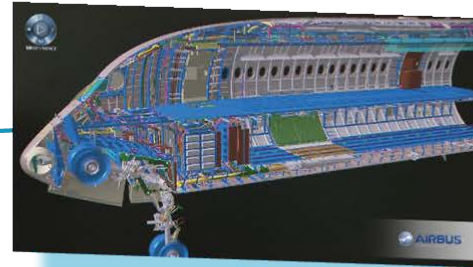
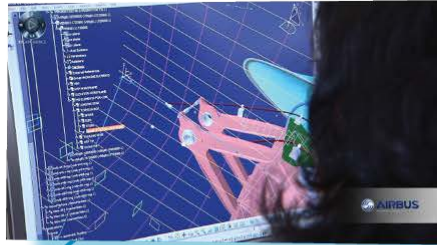
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# Aerospace



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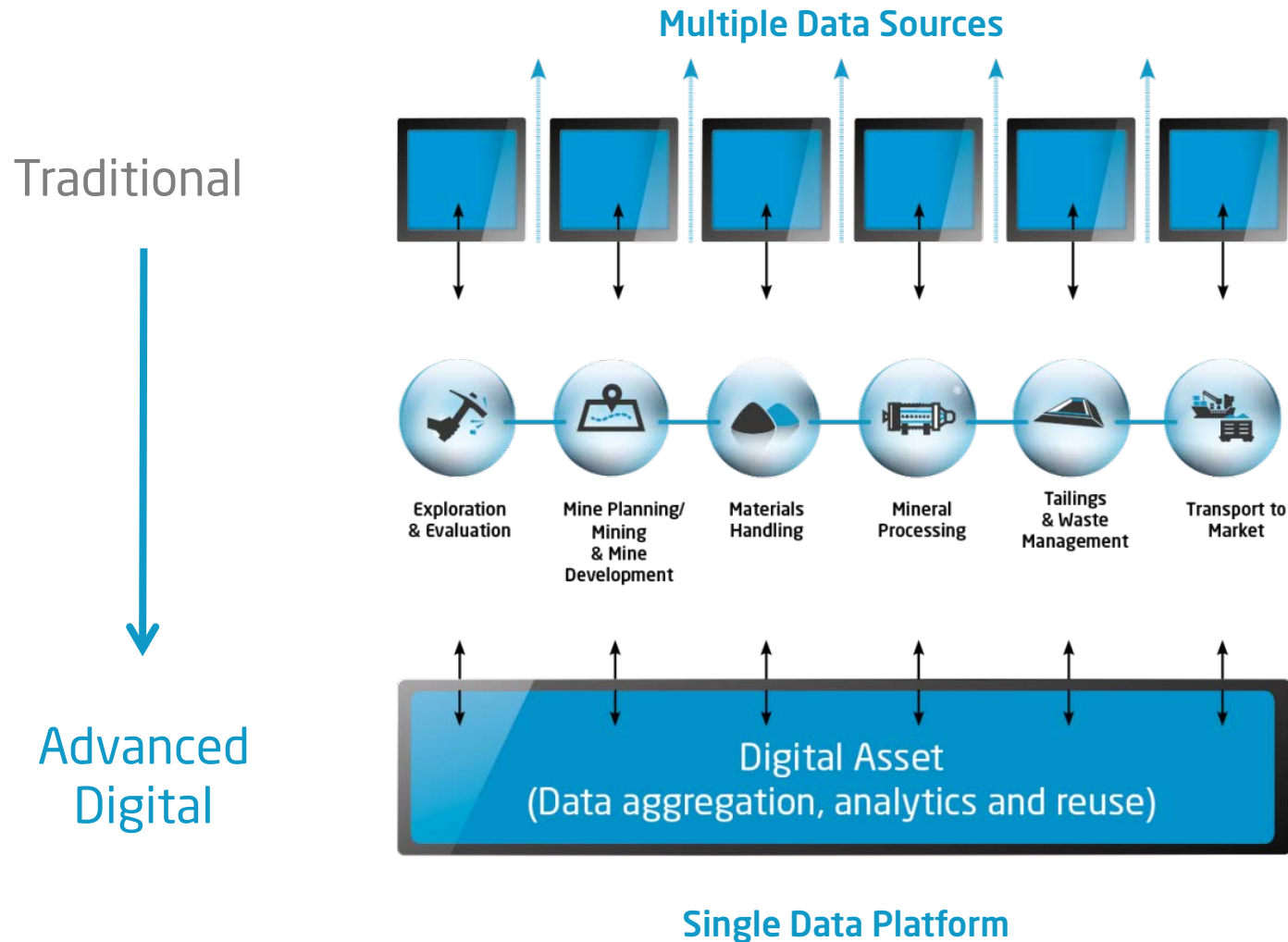


Images courtesy of Dassault Systèmes

# Digital Asset Concept



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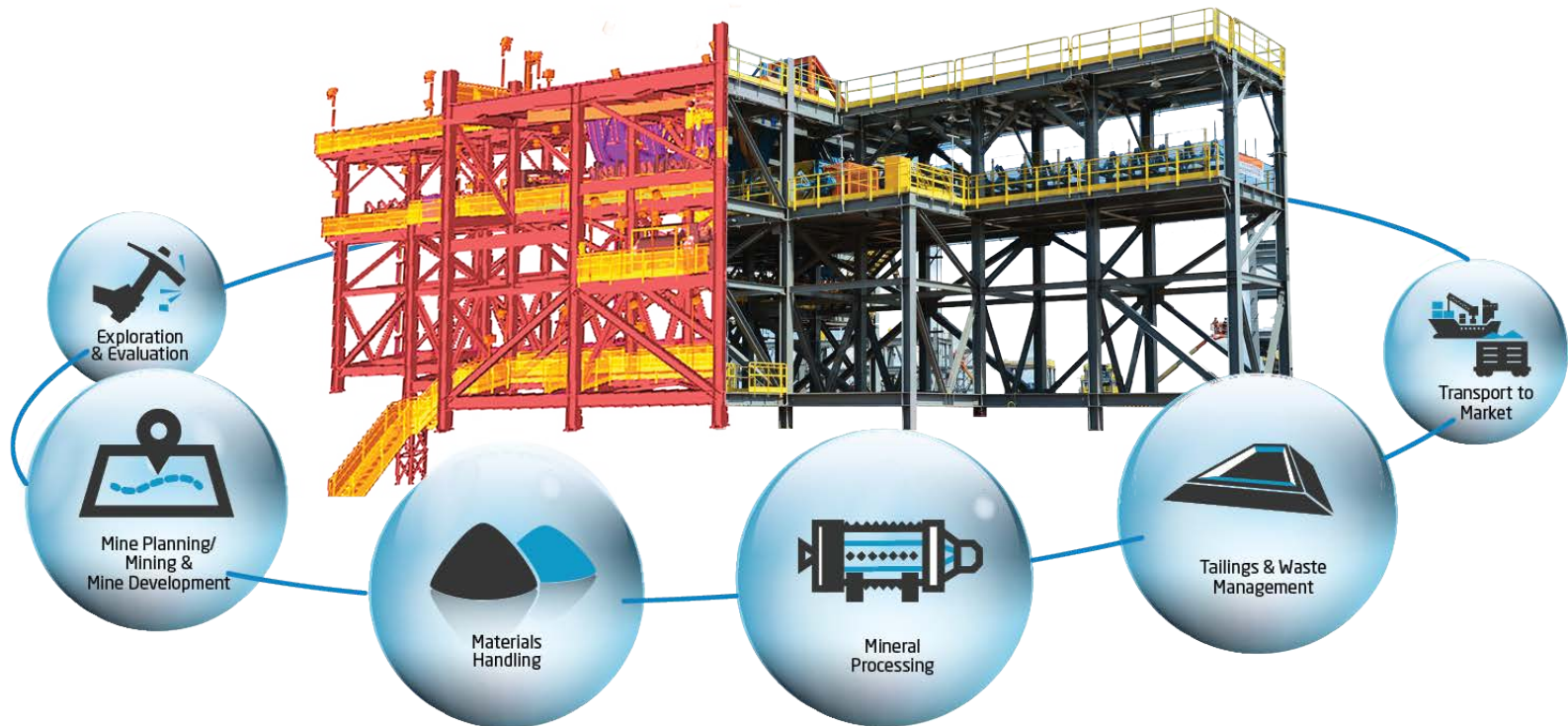


# Digital and Physical Asset Delivery

Continuous improvement across whole of asset life



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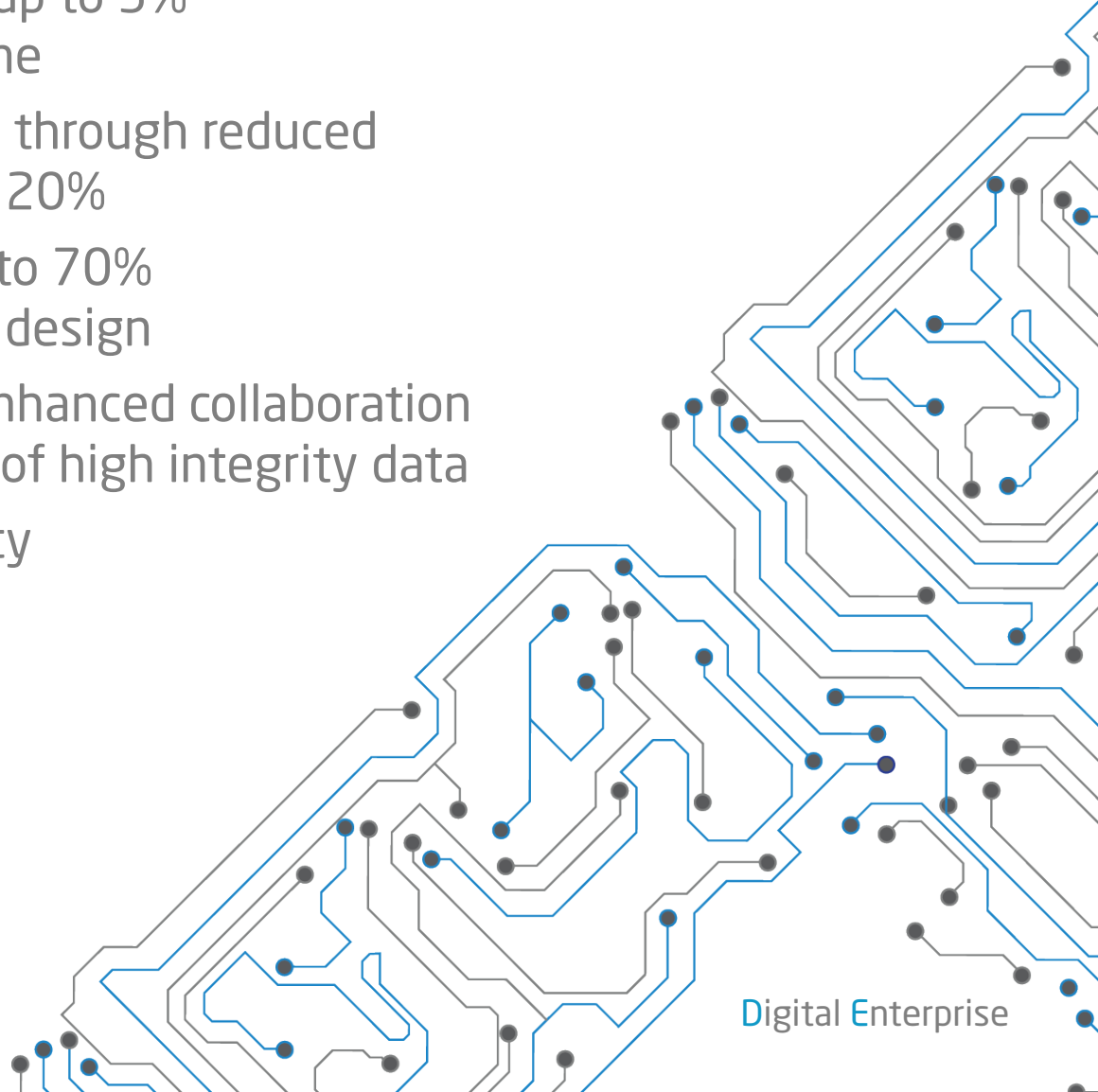


# Potential Benefits of the Digital Asset Concept



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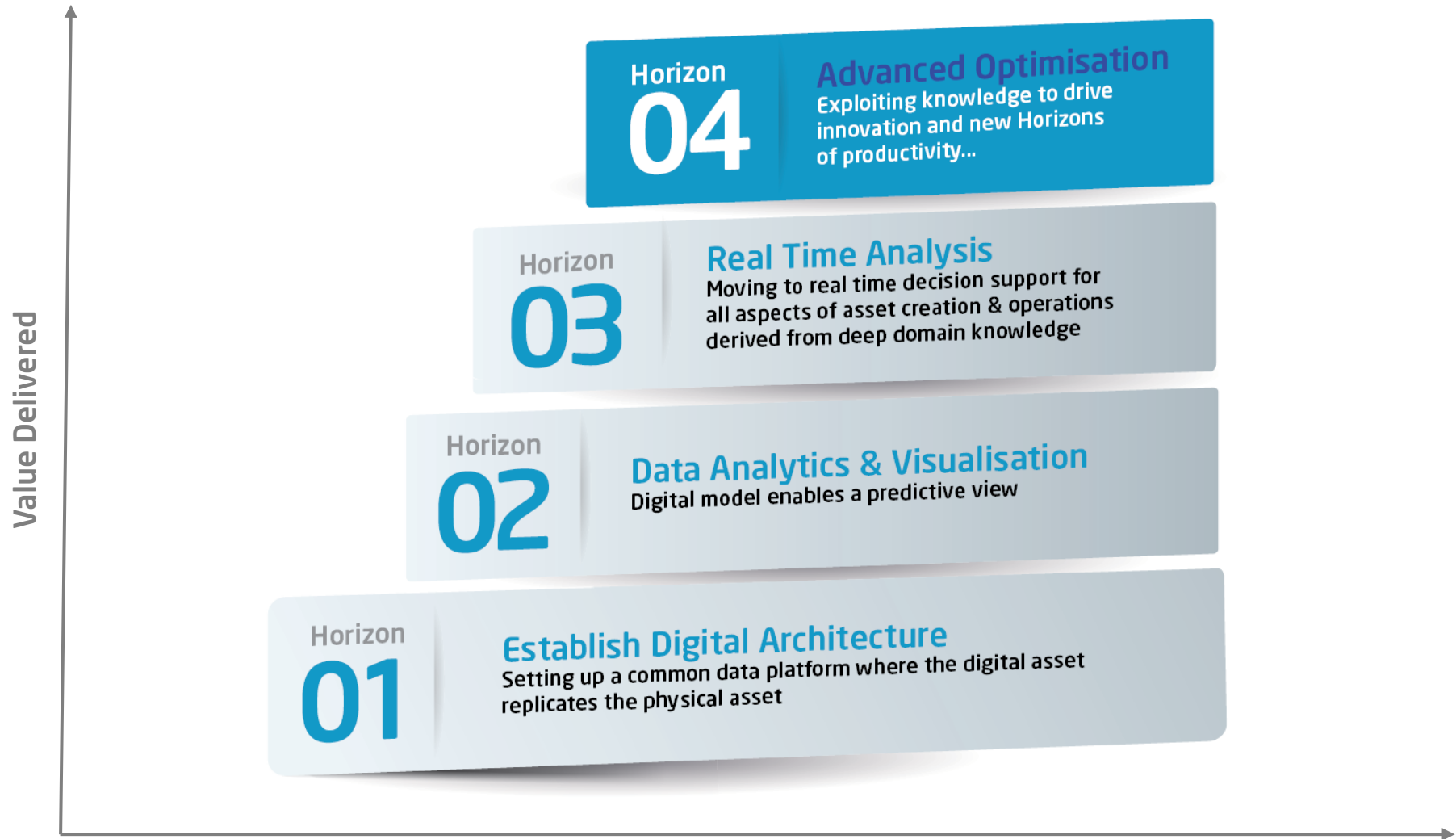
- Capital costs reduction of up to 5% through data integrity alone
- Increased speed to market through reduced project cycle time of up to 20%
- Reduce design cost by up to 70% through reuse of data and design
- Access to resources and enhanced collaboration through a common source of high integrity data
- Increased delivery certainty
- Optimal start-up
- Improved safety outcomes



# Digital Horizons



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# Let's Get Started

## Collaboration, co-operation and application of available technology



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