

Data Quality 360°: Guiding an Organization to Data-Driven Success

Experiences & Accomplishments gained with Bane NOR

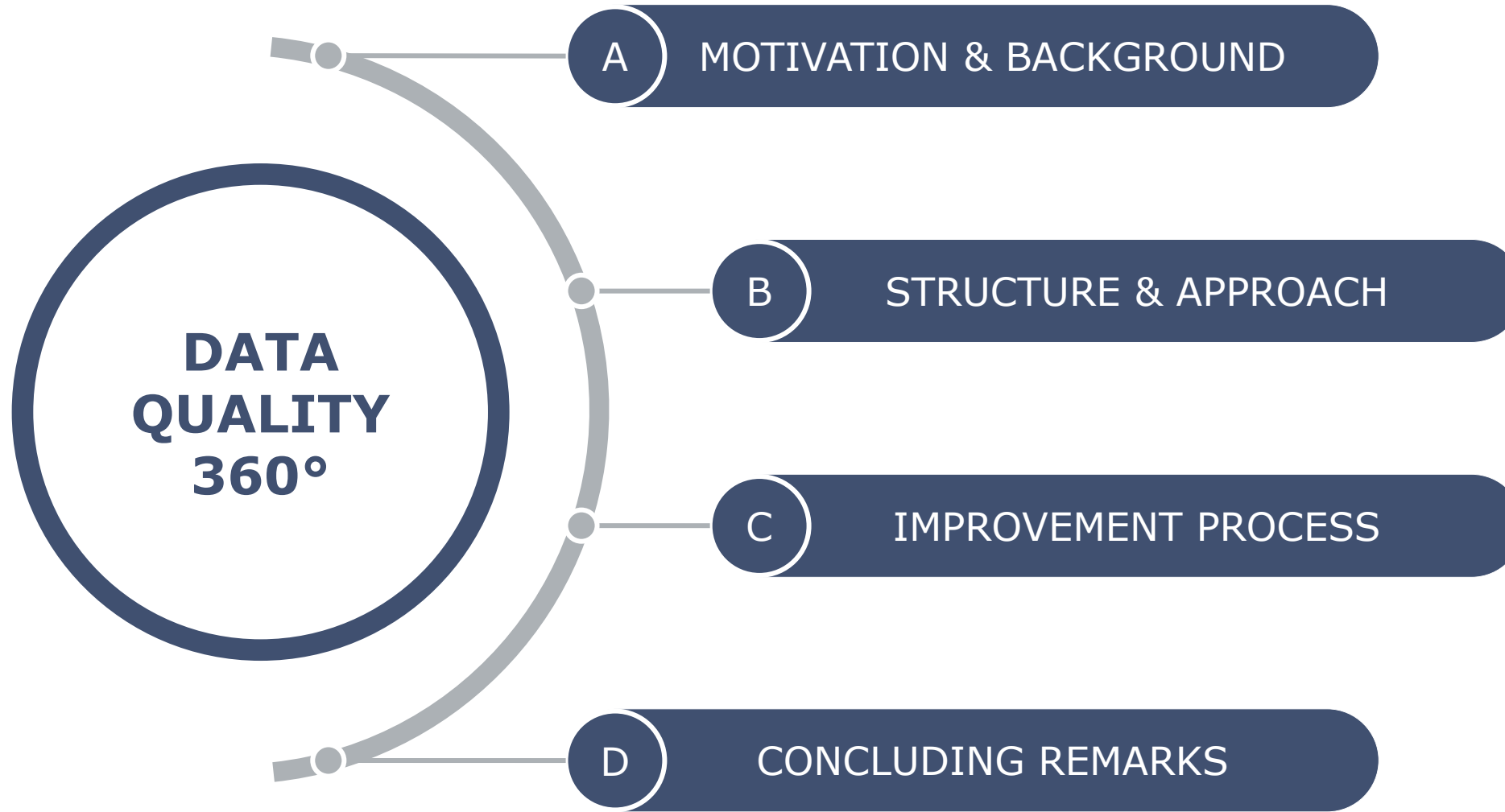
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DR. IGOR DAKIC

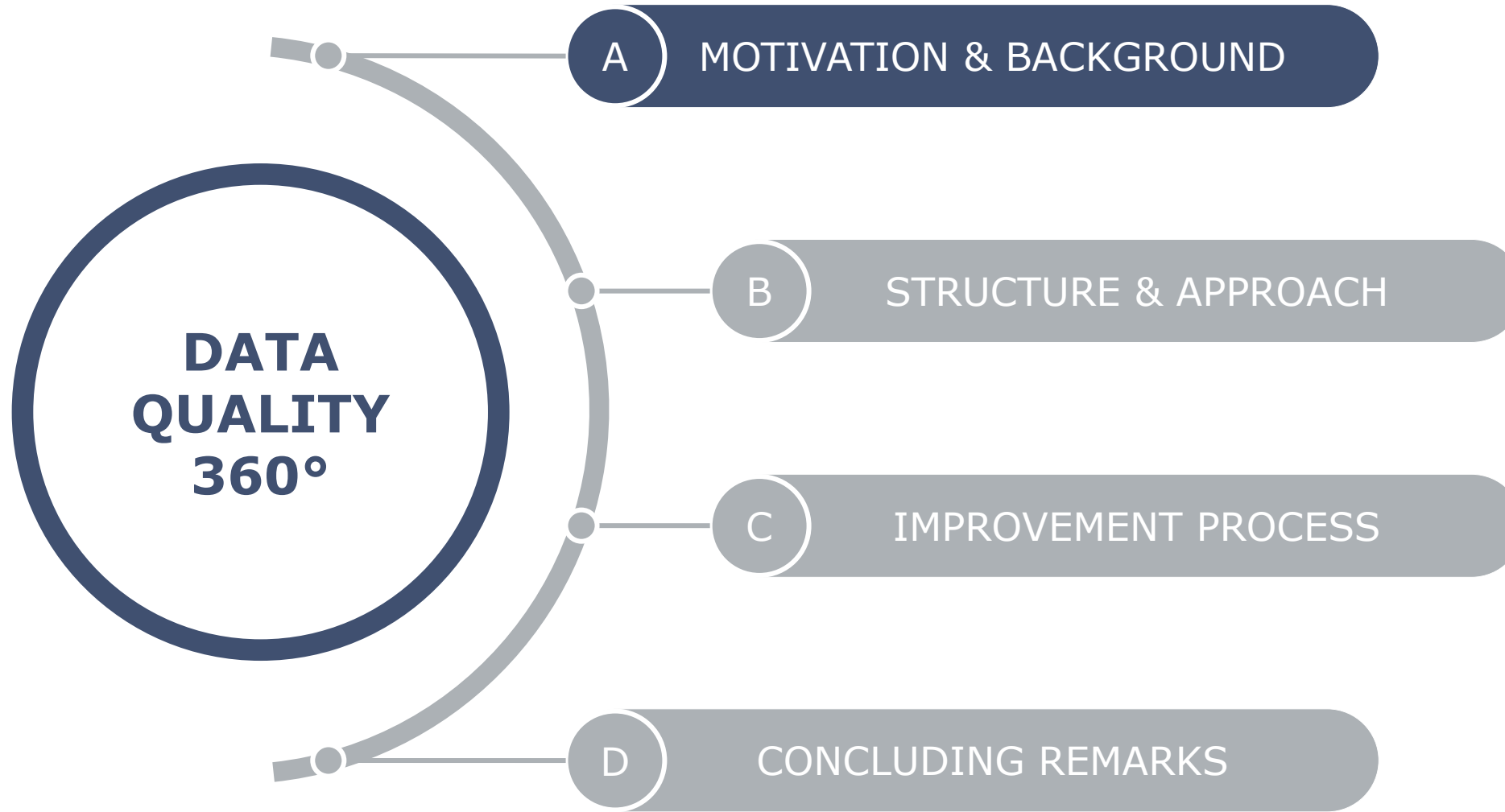
AFRY, STRATEGIC ASSET MANAGEMENT



Agenda



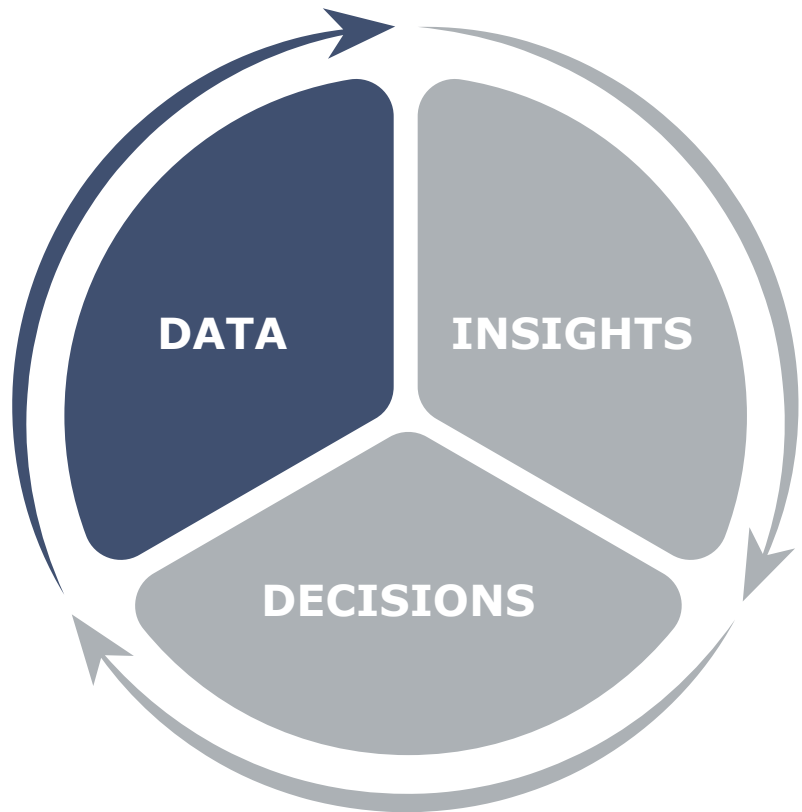
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Infrastructure asset management is a comprehensive tasks that needs to integrate asset data with processes and software tools.

Data-driven infrastructure asset management



- **DATA**
 - Asset portfolio, performance, and condition
 - Cost for maintenance, renewal, and investment
 - Maintenance and renewal requirements
- **INSIGHTS**
 - Condition evaluation trends
 - Maintenance and renewal needs
 - Funding need
 - Forecasting
- **DECISIONS**
 - How much to spend, where, when, and why
 - Maintenance and renewal needs prioritisation
 - Funding negotiations
 - Maintenance and renewal planning



Good top-level decisions are based on integrated approaches turning data from the entire organization into insights.

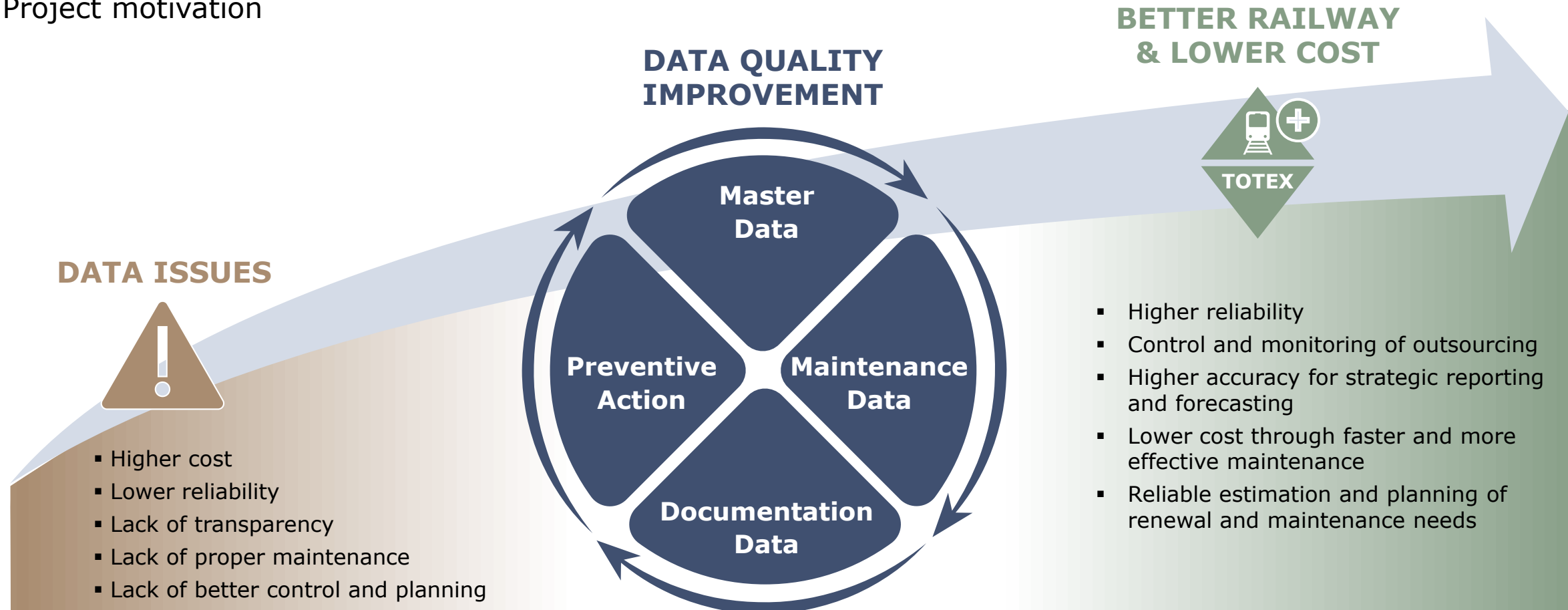
From on-the-ground processes and data to top management decision making



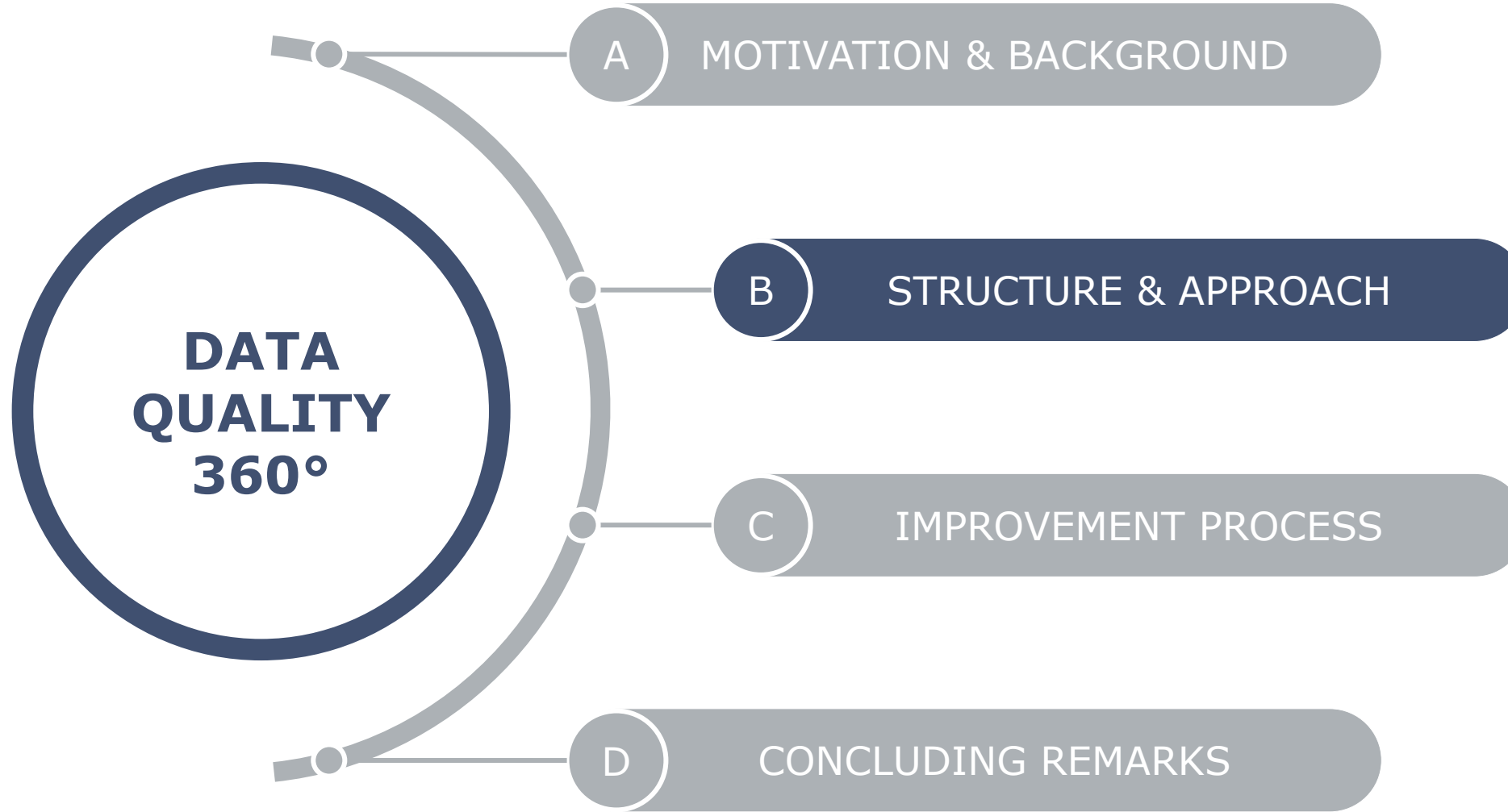


Data quality is a prerequisite for a data driven railway that realizes the benefits of digitalization.

Project motivation



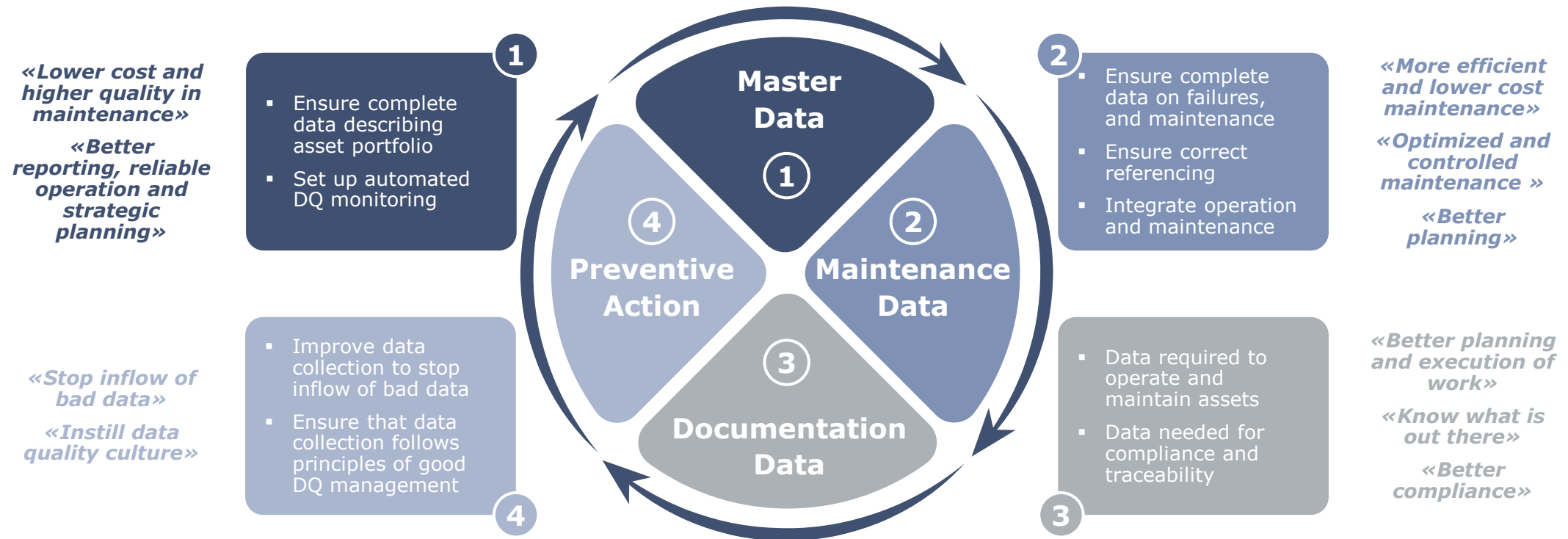
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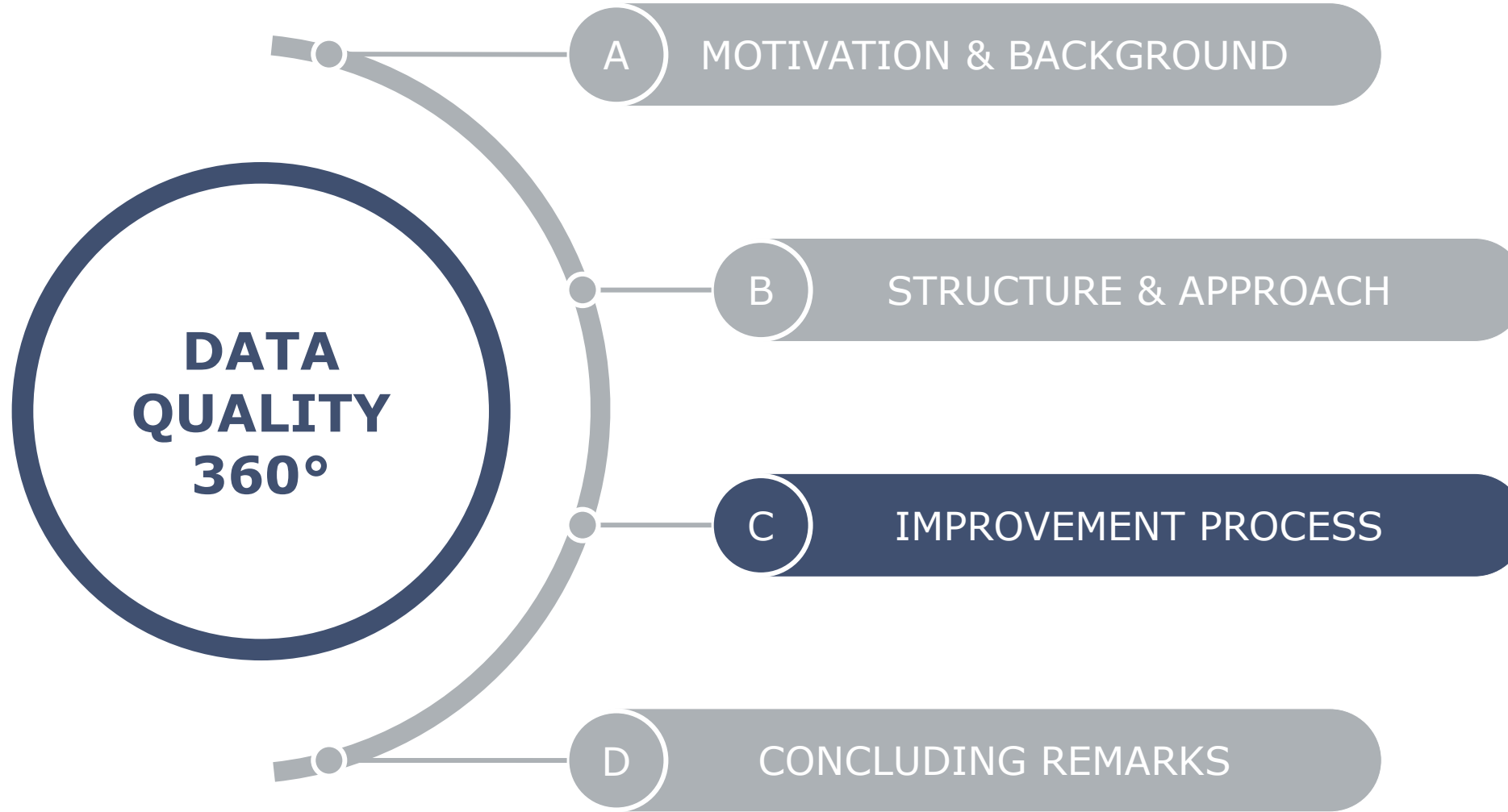


There are four work streams. Each stream follows three-phase process: scoping and prioritization – grouping – improvement.

Stream phases and implications



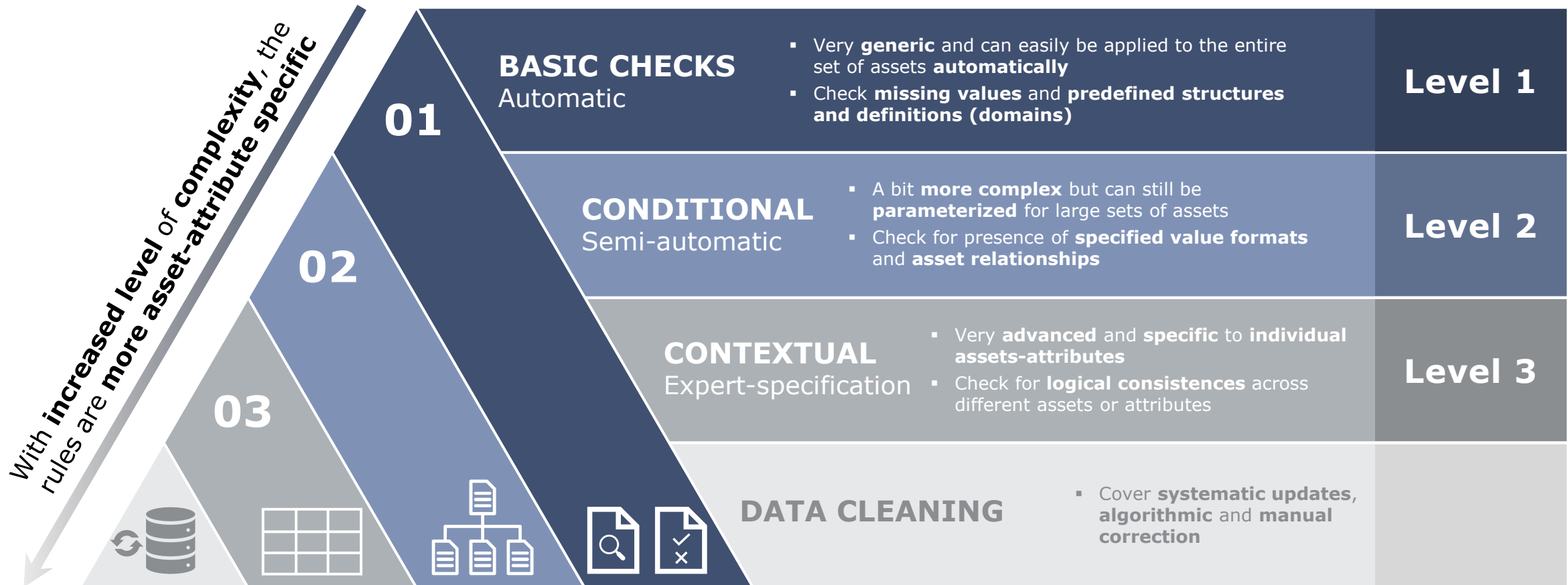
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Automatic data quality monitoring is based on the rulesets built in 3 levels with increasing specificity.

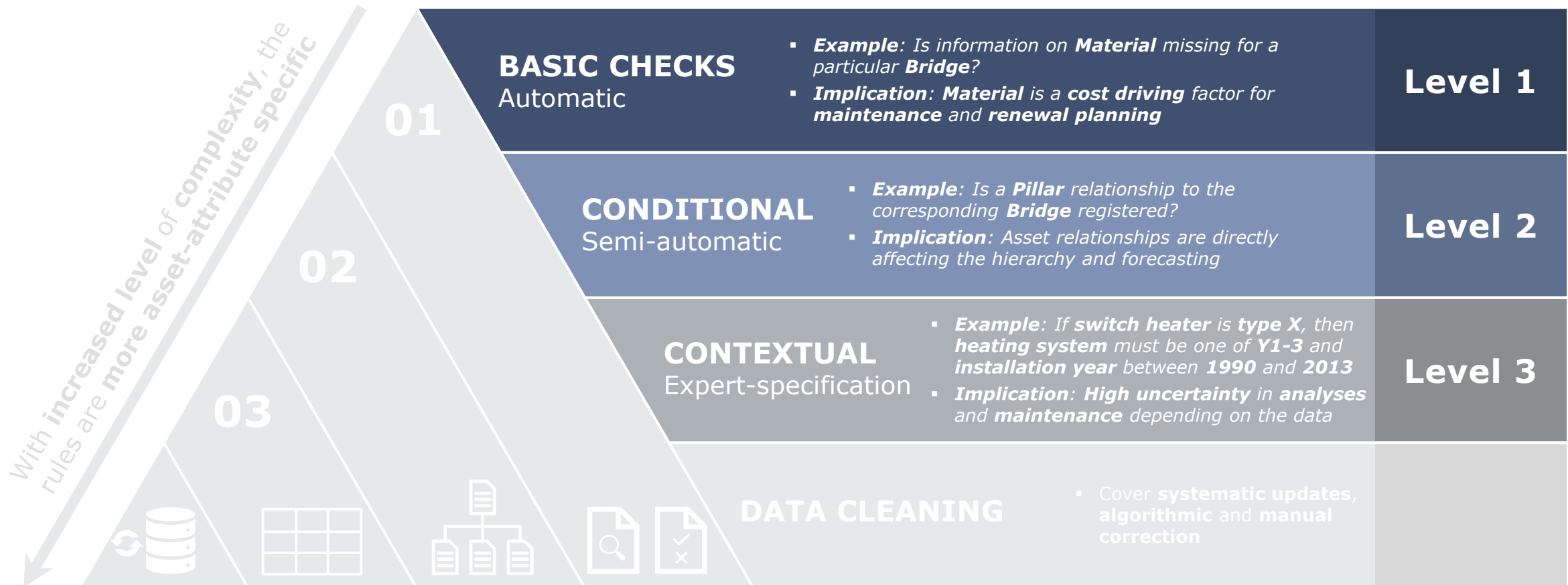
Modular approach for investigating data quality





Rulesets range from basic „is value registered“ checks to very complex contextual checks across different assets or attributes.

Modular approach for investigating data quality



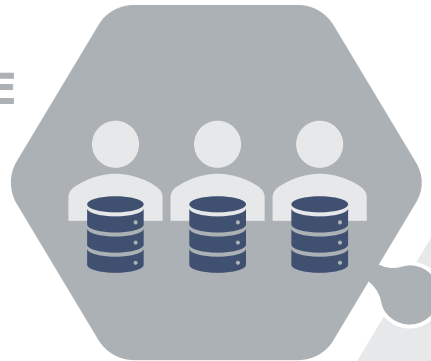


Data quality is not a one-off exercise, but a continuous task, commitment, and culture.

Key elements to preserve data quality

DATA GOVERNANCE

«This is my data and these are my stakeholders»



CONTINUOUS IMPROVEMENT

*«Higher precision in LCM models»
«Improved predictive maintenance»
«Reduced maintenance cost»*



DATA QUALITY MONITORING

«Automatically find and flag bad data»



DATA DICTIONARY

«We have this data and this is what it should look like»



DATA INFLOW CONTROL

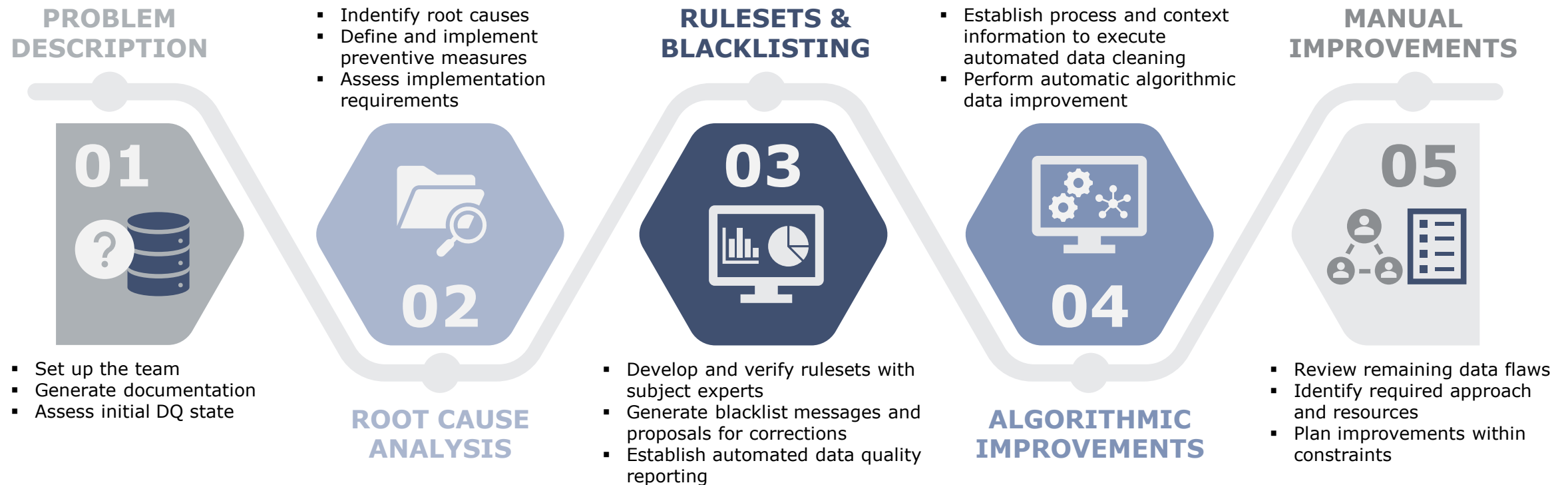
«No bad data enters from other systems»





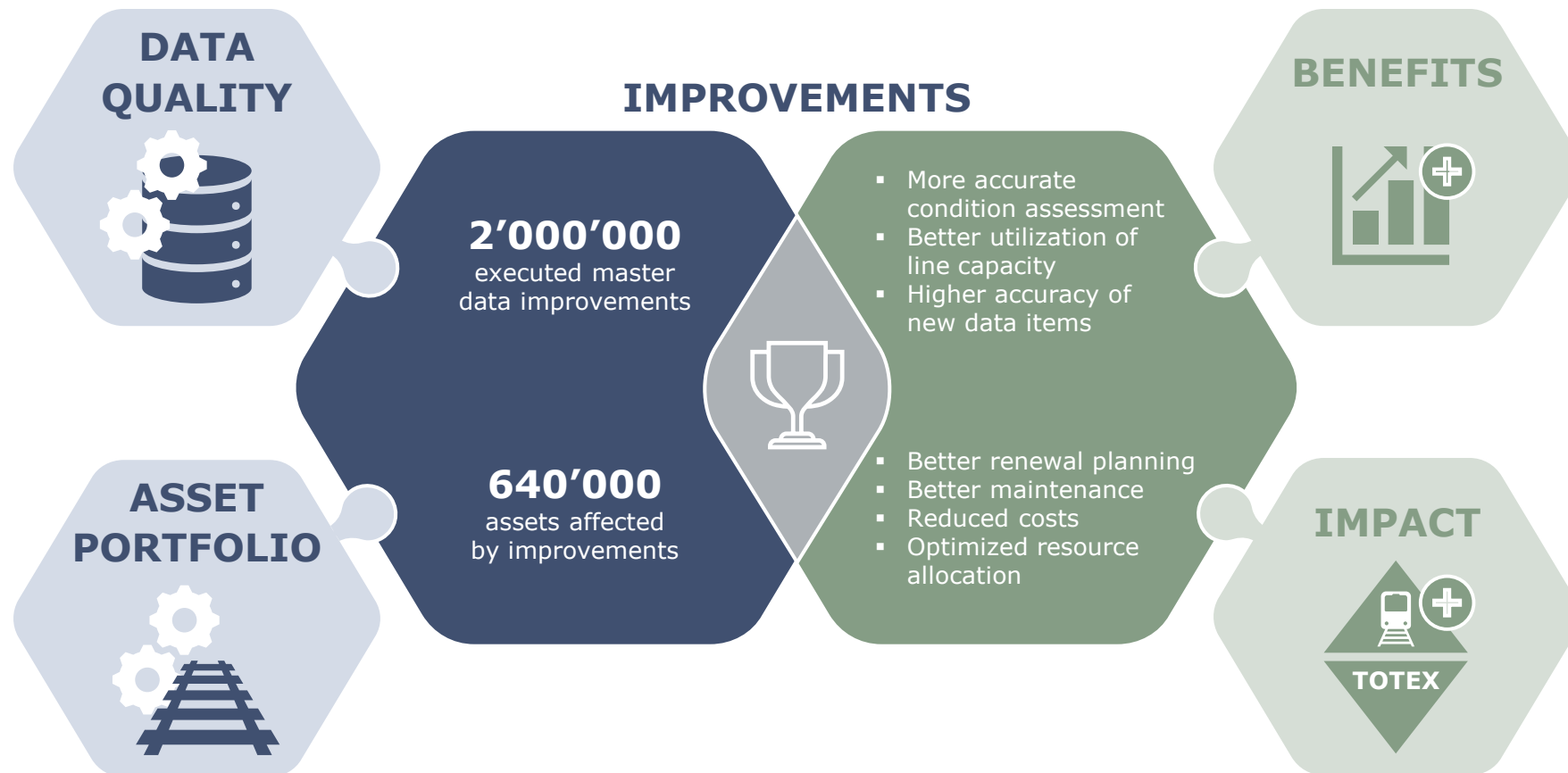
The core process consists of identifying data issues and root causes, defining preventive actions, and correcting flawed items.

Overall process flow for automatic data quality monitoring and improvement

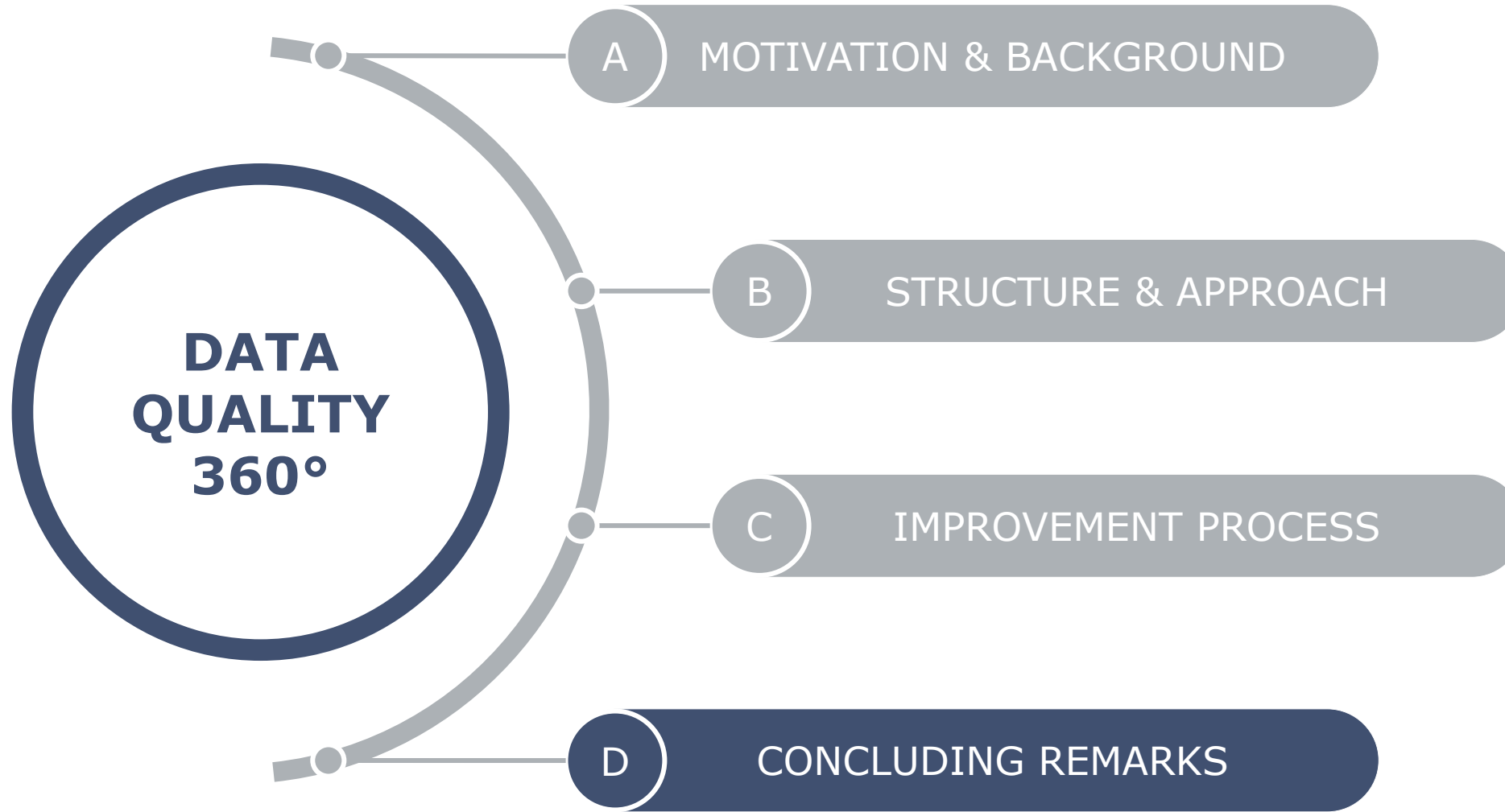




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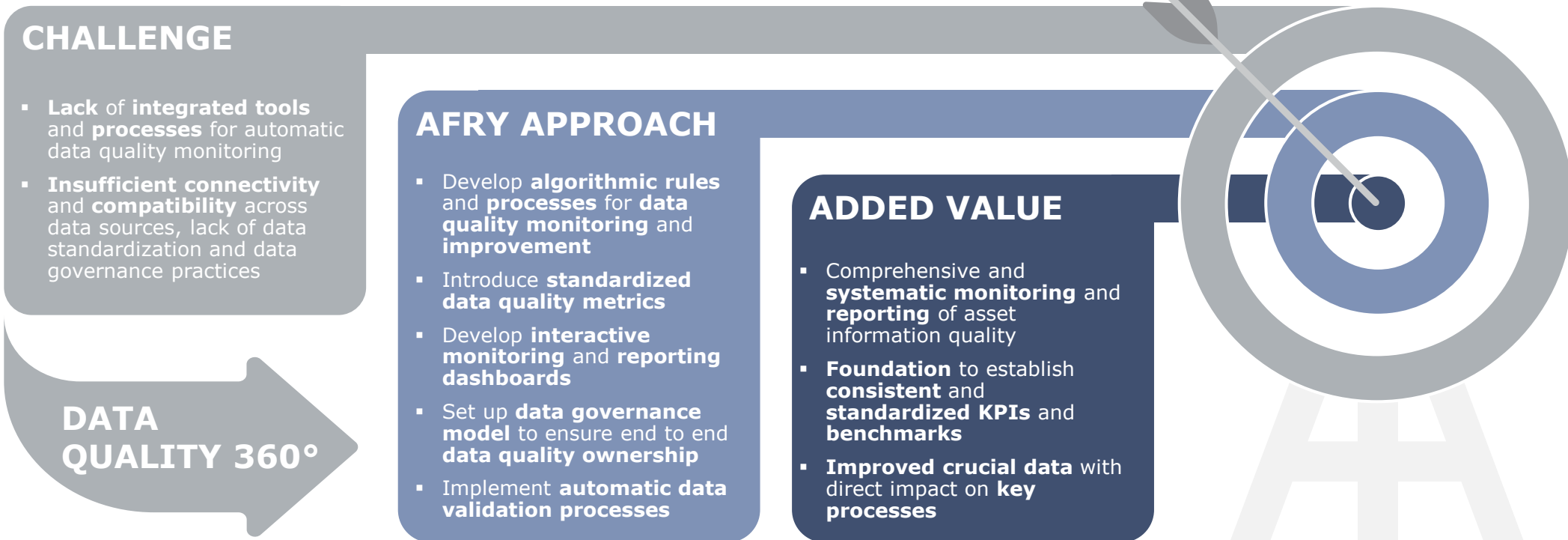
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Automatic data quality monitoring and improvement provides support for data-driven strategic asset management.

Takeaways



What is your data quality level?

AFRY
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