

Business case for operational and technical harmonisation

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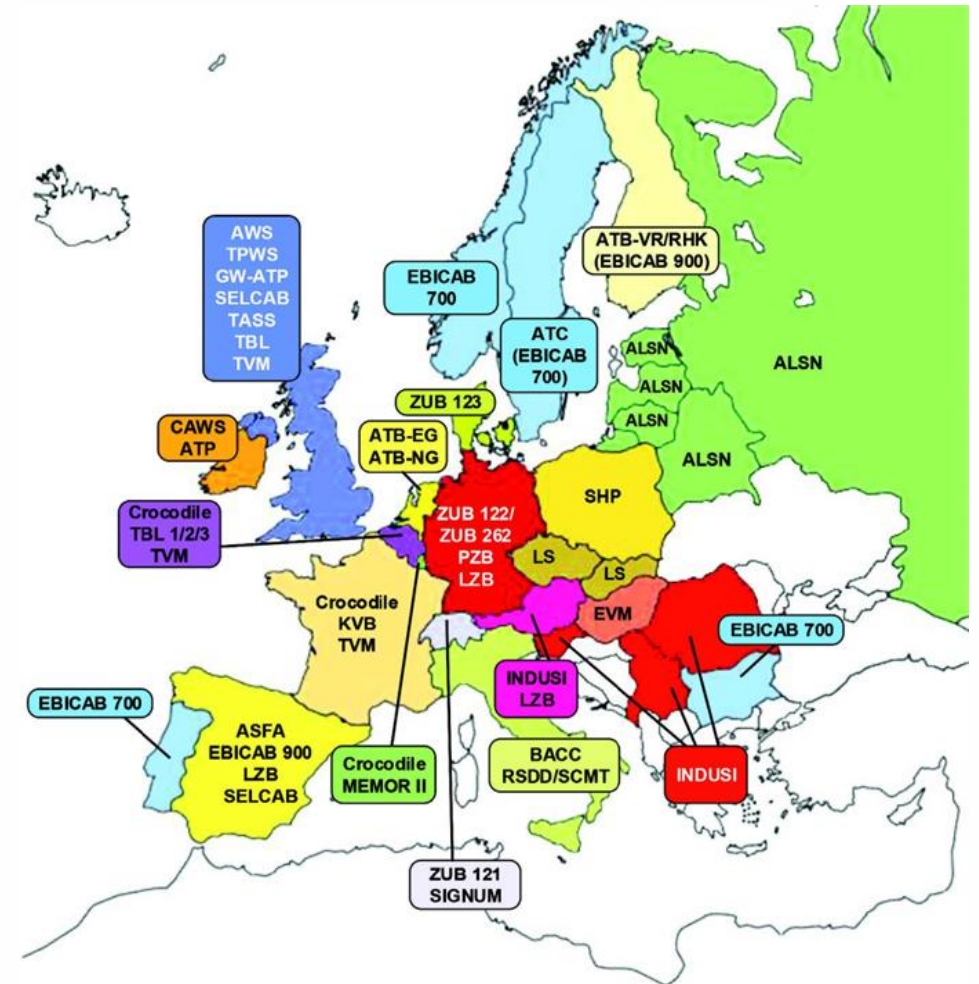
An infrastructure manager's request from standardisation

- Reduced complexity and lower cost
- Faster rollout
- Improved interoperability
- Improved safety & security
- Increased speed of innovation

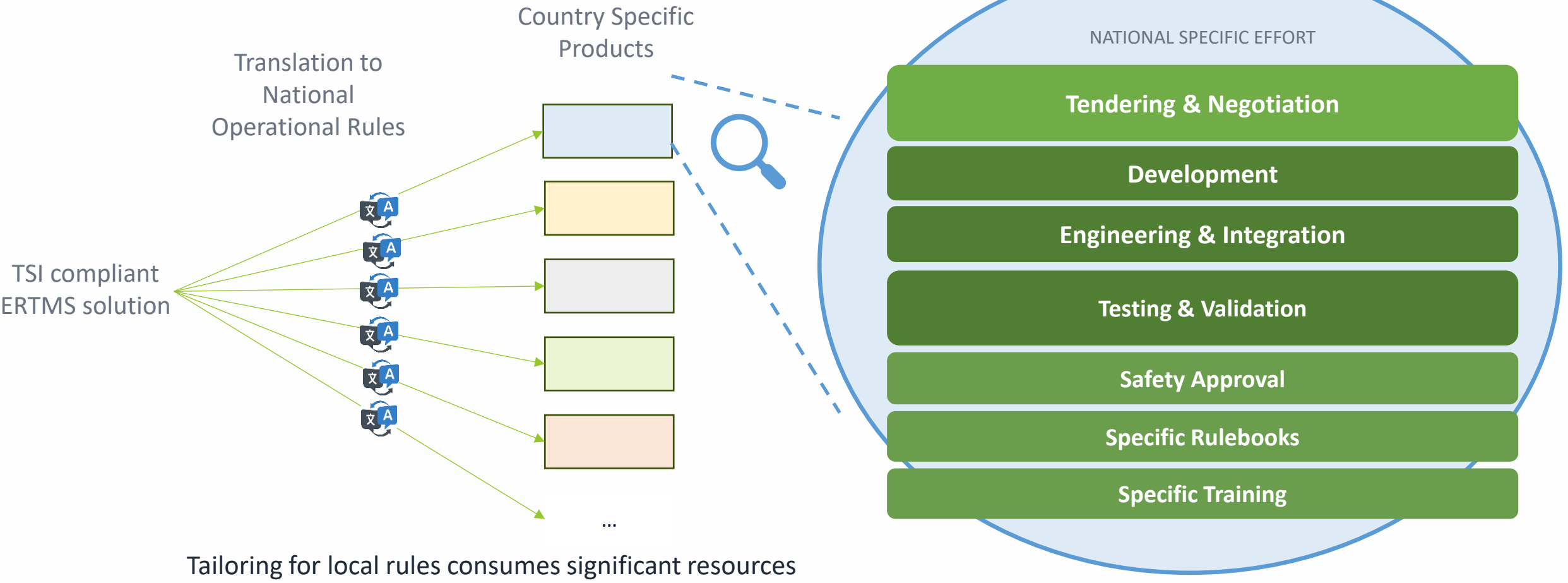
National rules and solutions inhibit European efficiency

- National operational rules are deeply entrenched
 - Based on accidents and events over 100 years
 - Easy to add a new rule; difficult to remove
 - “Only we know how to operate trains safely”
- Existing signalling systems with a long history
 - Adhere to operational rules
 - Optimise performance given rules and physical layout
 - Significant investment in technology and people
 - Local ownership

 Low interoperability and high cost



There are not two similar ERTMS implementations in Europe



Tailoring for local rules consumes significant resources

Effort is multiplied for each non-standard product

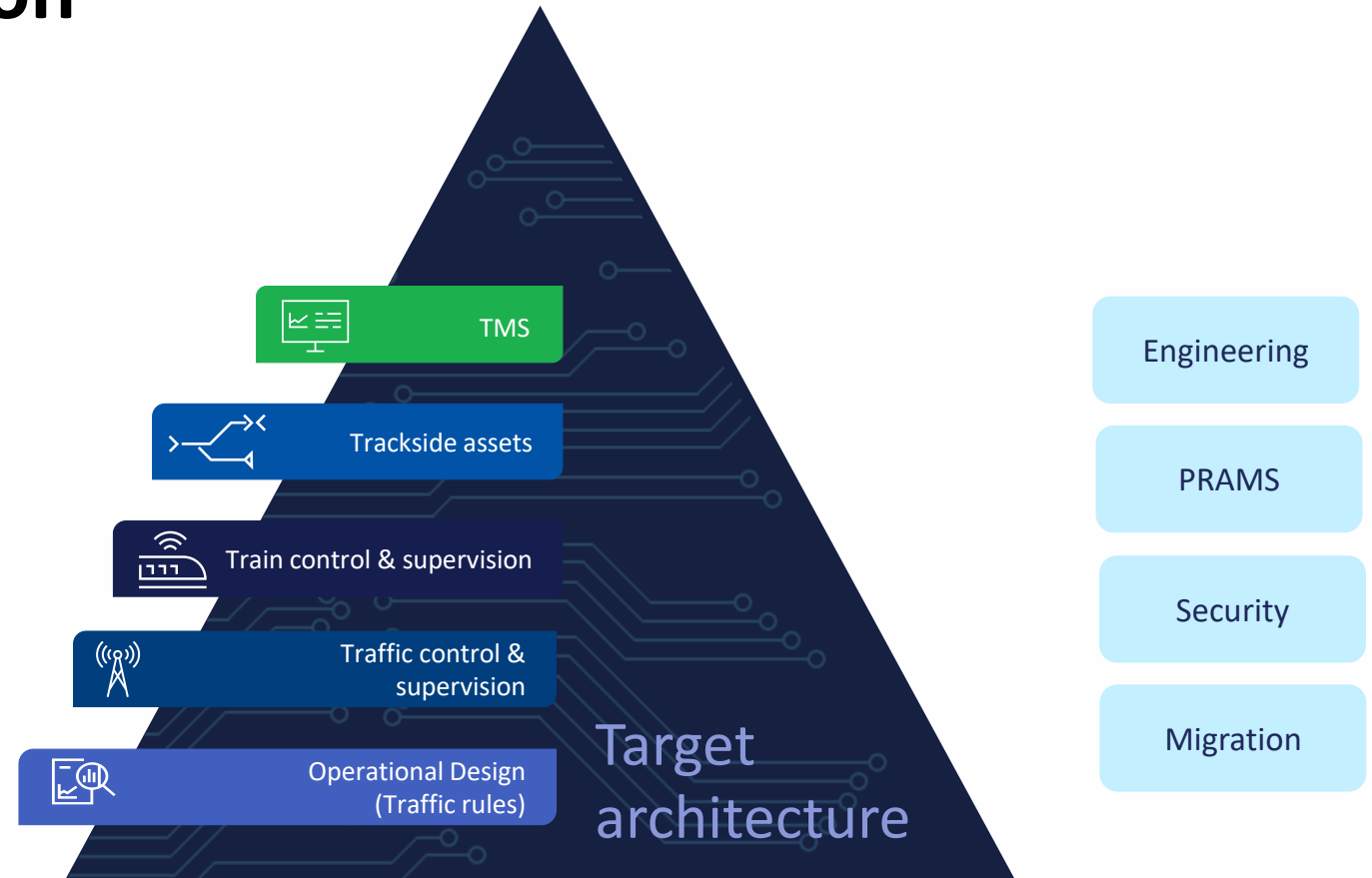
The quest for being unique has a society cost in the billions of Euros

- Time-consuming process
 - From specification to operations approximately 10 years
- High risk
 - Specifications are misunderstood
 - The environment changes in 10 years
- High cost
 - Unique solution developed and validated in each phase
 - Interoperability suffers as we do not start with cross-border
- Slows down innovation
 - Locks up resources from customers and suppliers
 - Suppliers delivers projects *and not products*



The System Pillar offers a way forward – call for *your* action

- Start with common European operational and engineering rules
- Ensure a standard ETCS
- Define standard data formats
- Use EULYNX to decouple objects
- Security through standards
- Focus on migration



THANK YOU

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