Data-Driven Integrated Operation Control Centre
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What is a Data-Driven IOCC?
New functional needs, technology stacks and trends compel to constant evolution. Our last generation of fully integrated platform focuses on business logic, providing a standard and open mechanism for developers and partners.

IOCC is a modular solution able to integrate all the operational subsystems of a transportation network with a harmonised single human machine interface: electromechanical systems, power, traffic, security, passenger information, predictive maintenance, etc.

Technical features
Our IOCC platform leverages the latest techno drivers:
- Available on multiple devices: PCs, tablets, smartphones
- Big Data analytics capabilities add-on
- Run in customer premises or external cloud
- Uniform, intuitive, ergonomic UX
- Integrated Cybersecurity based on OAuth2.0
- Seamless move to IoT, Artificial Intelligence.
- Based on strong and proven DevOps tools
- Cluster qualities including Scalability, Redundancy, High Availability, Resilience, etc.
- Zero downtime for upgrades and patches through dedicated Software Lifecycle Management.
- Integrated Administration UIs for KPIs, Security management, User & Role management, monitoring, software lifecycle management, etc.
- Fast and simple integration of external services
- Multi-language, multi-runtime support
- Enables smooth and stepwise migration
- Scalable for functional evolution or expansion
- Partner eco-system via standardisation

Data Driven Operations
The modern OCCs collect raw data from thousands of sensors causing information overload for the operators. To support their decision making, operators need to easily visualise the data that matters. Thales Integrated OCC exploits the power of data to provide the right information at the right time. Intrusion detection feature for example, allows to detect unauthorised access to the track by combining video analysis with traffic management, and thus to automatically regulate the traffic. We have defined more than 50 use cases, covering from passenger flow to energy efficiency.

Operational Benefits
Thales Integrated OCC answers to current challenges:
- Enhance operational performance and safety. Less operator interactions to reduce human factors / risks.
- Passenger satisfaction. Real-time accurate information on platform displays or inside the trains, on personal devices or smartphones.
- Minimise workload through the automation of routine tasks. Discharge operators in normal operations to allow them to focus on planning or anticipation.
- Efficient crisis management. The operators are guided step by step through pre-defined computer-aided operation procedures.
- Overall security. Integrated video-surveillance, access control and emergency calls on platforms and on board trains. Increase the feeling of security among passengers.
- Simplification of operators’ management. Generic positions to optimise organisation, dimensioned according to context.
- Simpler training, one single solution. Risk anticipation through Simulation capabilities. Analysis and lessons learnt from past incidents.

Value for money
Cost savings (CAPEX + OPEX):
- Flexibility of staff resources. Minimised number of central operators, grouping several roles together or reducing positions during non-peak hours. No local supervisors, unattended stations.
- Optimisation of the Control Centre room size, less operating posts. Adaptable layout.
- Combined Energy saving strategies. Distributing the train departures. Maximising the usage of regenerative braking energy.
- Simpler Central systems administration. Easy to maintain and upgrade.

References
The Integrated Operation Control Centres are at the core of Thales’s ground transportation activities, exceeding 40 years of experience, with emblematic projects delivered in more than 30 cities, such as Paris, London, Bilbao, Dubai, Doha, Lusail, Makkah, Hong Kong, Singapore, Guangzhou, Mexico City, Santiago de Chile, Panama, Santo Domingo, Sydney, Cairo, etc.