

# New Roles for Terminal Automation – System Integration Challenges

June 2020

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# Context

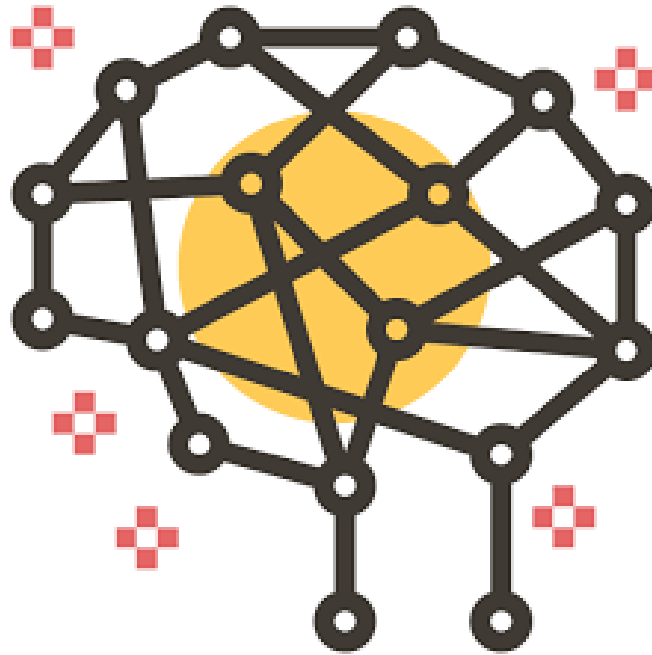
- The exceptional situation we are going through during **COVID-19** is forcing Terminal Operators to re-think how to operate and to manage Terminals,
- Certainly the sense of urgency to move forward with **Digitalization and Automation** is being empowered, helping alignment across the Industry,
- But also we faced the **challenges and constraints** on even more dependent from technology, both for running and implementing Terminals,
- We still need to be aware about what is constraining us today to realize Automation potential, as with **Systems Integration** (and its standardization).



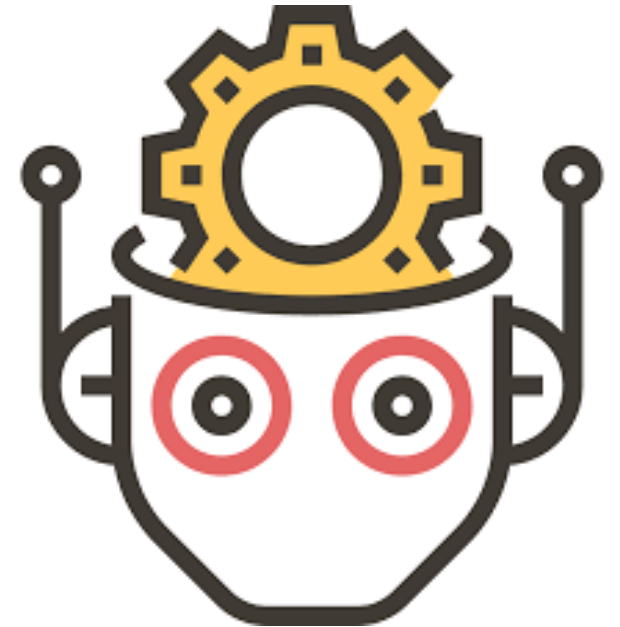
# Terminal 'System' Integration Challenges



***Solution  
Framework***

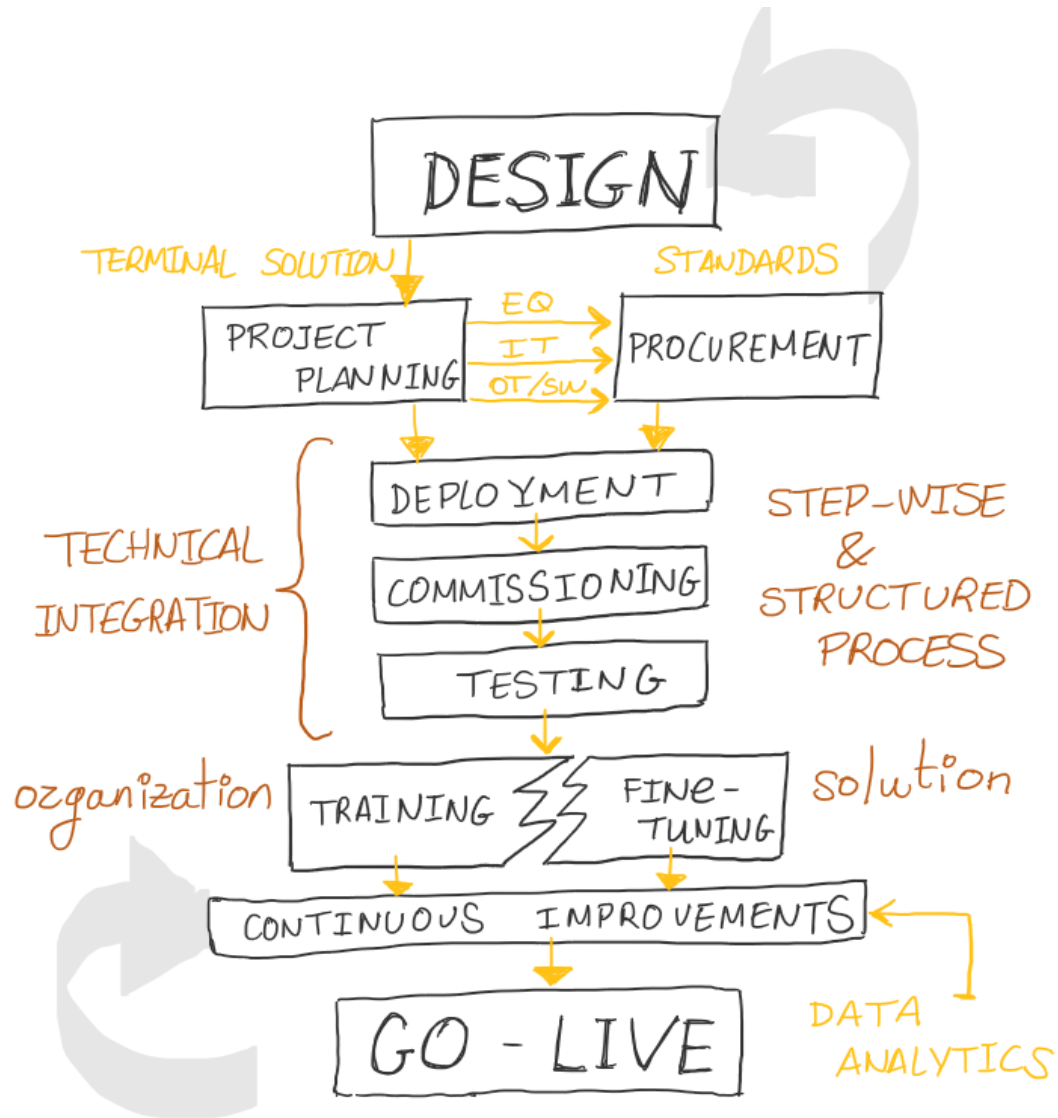


***Integration  
Risk***



***Workforce  
Boundaries***

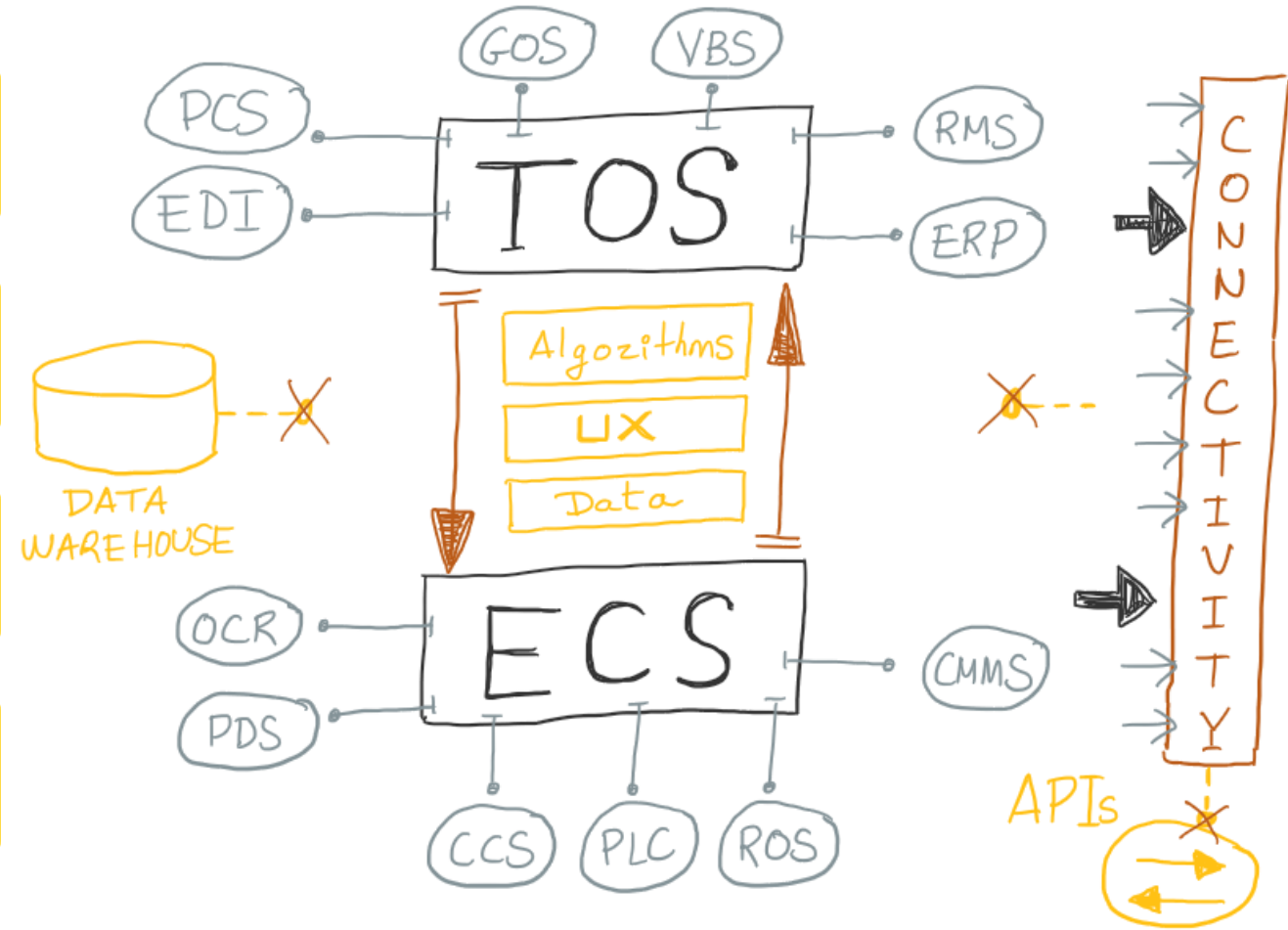
# Terminal Solution Framework



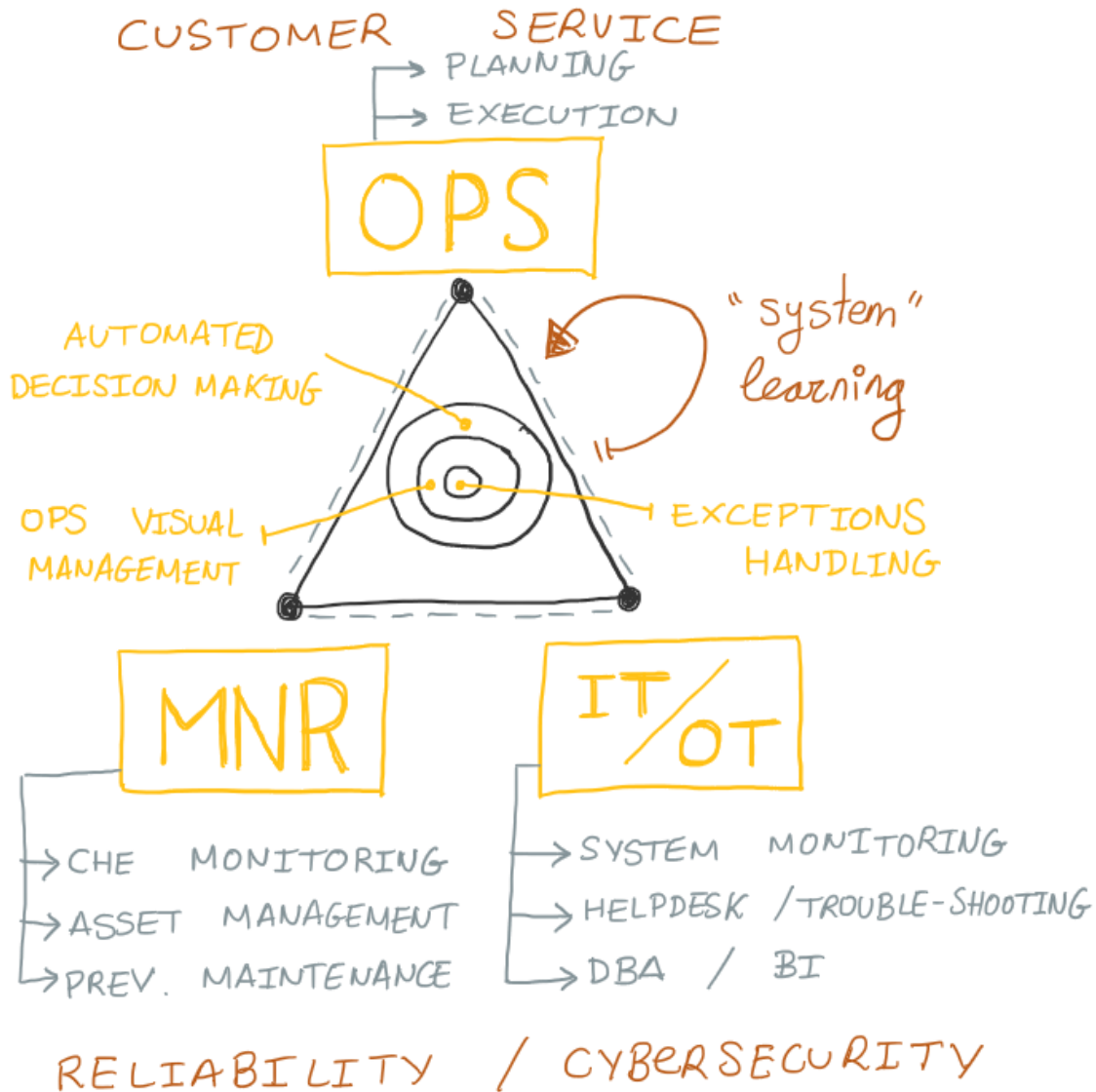
- 1. Disconnected Terminal Design-Development-Deployment processes,
- 2. Suppliers limited understanding about Operational and Organization aspects,
- 3. Solution completeness and flexibility,
- 4. Lack of effective Industry Standards.

# Solution Integration Risks

- 1. No turn-key solutions, system integrator role missing,
- 2. Scope requirement & integration discoveries (many & late),
- 3. QA processes alignment (testing), and too technical (e.g. no UX validation),
- 4. Absence of actionable Performance partnerships with Suppliers.



# Workforce Boundaries



1. Inflexible workforce environments, no forward thinking, no evolution,

2. Many barriers & organizational siloes for Digitalization and Automation,

3. Data in siloes, not standard, not structured to utilize it effectively,

4. New competences dependency on new qualification and roles evolution.

# Conclusions

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- While clearly is the Future for Terminals, Automation can only be properly implemented on a platform of **Operational Excellence**,
- It requires transforming the business silos to a single **digitized process platform** to act as the operational backbone,
- Terminal implementation requires a much more **integrated and cross-functional approach** to seamlessly deploy the different engineering streams,
- An **integrated operational and technical capability** is necessary and still there are serious challenges for finding **standardized solutions**,
- Next wave of Terminals will implement Digitalization and Automation hand-in-hand to truly **connect processes, tools, data and workforce**.

# Take-away (an Industry Call)

*Efficiency*

*Repeatability*

*Sustainability*

*Transparency*

*Robustness*

*Safety*

*Security*

*Predictability*

The future in Terminals is Digital and Automated – but we need to make it easier, more reliable and repeatable.