

Warehouse Modular Maturity
Quantified Efficiency Optimization



Table of Contents

How to get started fast on optimizing efficiency in operations and cost2

Maturity modelling with a simple, practical innovation3

Modular transition design and execution – fast meets affordable4

Modular thinking enables digital progress5

Taking action now costs you nothing6

Contacts7



How to get started fast on optimizing efficiency in operations and cost

We know Logistics and Warehousing are centered on Efficiency and its Optimization. If these are not a constant focus of activity, deeply embedded in your operational processes, then you may be facing a need for transformation. Transformation is a big word, yet it is not synonymous to a major event - while transformation can mean “large technology migration”, for example, it can also mean “discrete, small, yet compounding improvements”.

A very pragmatic approach is to regard the latter as a journey; a very practical method to design and perform this journey is what we call “Modular Maturity”: a structured, hyper-focused framework maximizing today’s assets and practices, to achieve a well-defined, clear outcome for the future.

Maturity modelling with a simple, practical innovation

Let's discuss "Maturity" first. One such assessment determines, across a series of major categories with dozens of evaluation elements each, what is your current status for every such dimension, what is your desired end state, and how the transition from one to another would take place. Examples of statuses, increasing in maturity are: Basic, Improving, Established, Mature and Leading.

While there are many Maturity models on the market, for different parts of the Supply Chain, we must consider a very practical means to make them actionable: the innovative method here is to link each Maturity level to a KPI (range), and as such quantify the potential progress generated by the transition (and effort) toward the desired state.

We know that the need in Logistics, "classical" as it may be, relates to the efficiency and optimization of operations and costs. As such, KPIs for performance (e.g. picking throughput in lines per hour), quality (e.g. order accuracy by means of OTIF – on time and in full) and cost (e.g. distribution costs per unit shipped) should take center stage.



The typical categories for a Maturity model are Process, People & Organization, Equipment & Facilities, Software & Data, Sustainability and Safety. Between them, these will have hundreds of evaluation points, some applicable, some not, some important, some not, for your organization.

Across these different categories, we approach as much as 200 critical elements, such as:

- 1 Process**
KPIs usage, visuals/kanban, documentation and procedures, process automation, process agility, operational planning
- 2 People & Organization**
Capabilities, leadership, collaboration, communication, performance management, data literacy/access to information
- 3 Equipment & Facilities**
Automation and/or MHE for storage, picking, sorting, packing and internal transport
- 4 Software & Data**
Digitalization, WMS, analytics, data availability, connectivity, sync with business requirements, cybersecurity
- 5 Sustainability**
Energy efficiency, waste management, packaging, carbon emissions, workforce development and training, well-being
- 6 Safety**
Training, policies and procedures, inspections, PPE, material handling, fire safety and emergency evacuation

Modular transition design and execution – fast meets affordable

Each Maturity model must be tailored to mirror the operation it maps. Even so, the amount of evaluation elements will likely remain significant – enter prioritization, powered by “Modular”.

The KPI-driven approach mentioned above will allow to prioritize the most impactful Maturity pillars and their levers. Critical must-have’s are captured into a core optimization solution (designed and implemented first), followed, in a phased approach, by additional modules or sprints focused on lower-priority must-have’s and subsequently opportunistic nice-to-have’s. This will be a carefully designed and well-calculated journey, allowing, given its modular nature, an increased level of agility facing changing market conditions and Client expectations.

The Core contains 4 building blocks, aimed together at the optimization of operational and costs efficiencies:



Around this Core, either from the very beginning or as follow-up projects (thus supporting companies with a streamlining of their investments and budgets), we can bolt-on additional, discrete modules with very specific focus, such as detailed process design, detailed solution engineering, software stack architecture, organizational transformation, sustainability, detailed implementation tactics (incl. Risk and Change Management, BCP), digital (e.g. AI/ML, IOT, BI, RPA, Digital Twins etc.), Tax & Customs, RFI/RFP, etc. Going beyond the one facility, dedicated modules can address warehouse mergers, network impacts of one warehouse transformation, or, for companies with multiple warehouses – the archotyping or their portfolio of sites from many to a manageable few, in light of the application of the Modular Maturity method.

The mantra is “Swift and Sweet Optimization via Quantified Modular Maturity” – in logistics, efficiency optimization (whichever form its solution space takes) is where the value stands. The ability to capture it in a rapid, cost-controlled way and ensuring transparency, predictable sequencing and modularity further enhances its business impact.

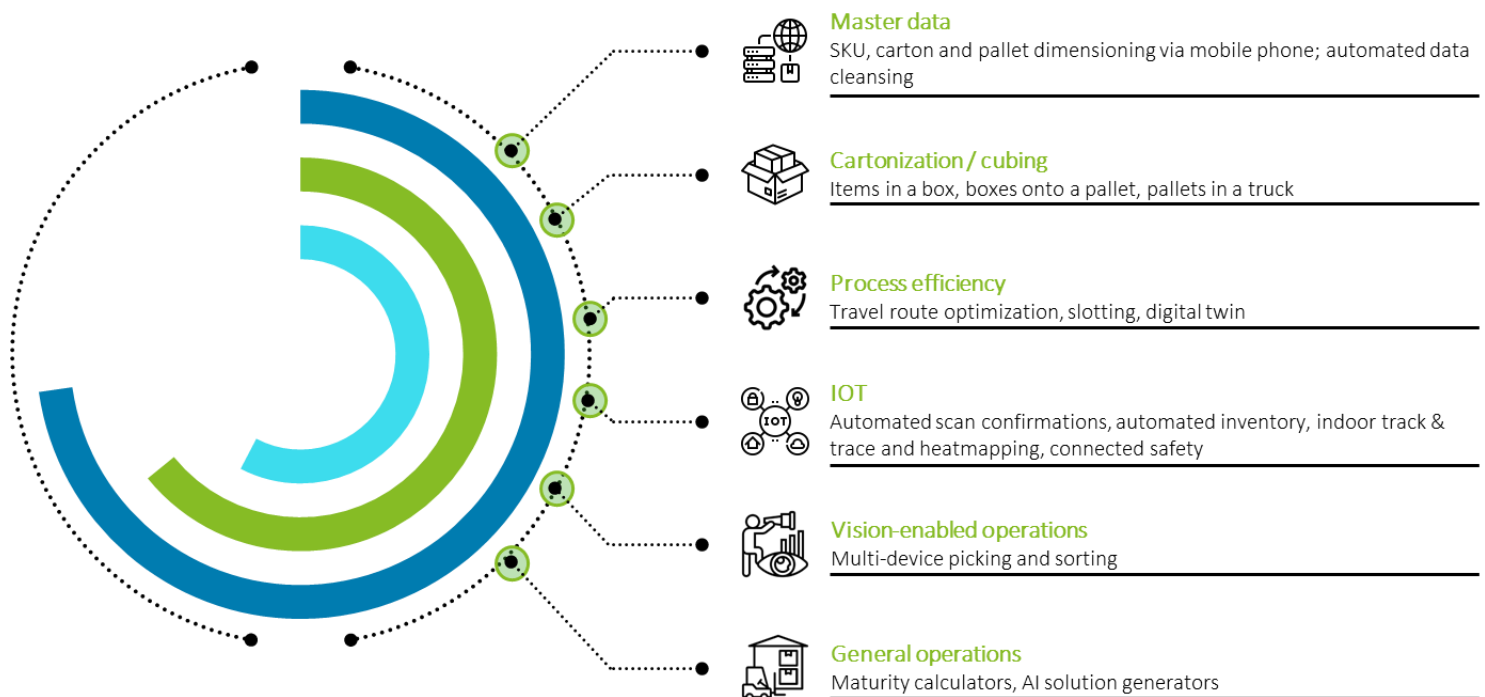
This thinking framework fully applies to implementation as well. In function of how your modular journey has emerged in terms of its design, you may opt for different angles to approach execution: performing the quick-wins first, pursuing a phased implementation of the entire solution space, piloting and scaling under the “learn fast” mindset, or, in case of larger transformations, partnering up with a general contractor for turnkey support (where applicable).

Modular thinking enables digital progress

The principles outlined above also apply to the warehousing and logistics software portfolio of a site or company, where the core is represented by the WMS (irrespective of its lifecycle situation) and the optional modules are apps focused on specific business functionalities not covered by the WMS. The reasons for these not being part of the WMS can be multiple, and a popular one refers to the high cost of custom WMS developments. For the “app” concept to deliver value, these customization costs must be less attractive than those of an app and its (potential) integration with the WMS (the postponement of these integrations may allow the apps, where feasible and of value, to demonstrate an even more advanced degree of agility).

In consequence, these apps have to 1. be deployable fast, in weeks-to-months and 2. deliver a payback of no more than one year, while being replicable “plug & play” across (similar) sites, where payback will occur much faster. Many of these applications can also represent the solution to the modular optimization problems discussed in the previous sections.

Tangible examples of apps, grouped into potential categories, are:



Such a “menu” of apps could be built part of enterprise portfolios, and the warehouse(s) would deploy the selection best fitting their needs and strategies. For networks with multiple warehouses, this approach allows the development of a single, simpler WMS template for all sites, while regional particularities are addressed by means of various combinations of apps. Alternatively, or complementarily, technology partners could offer and maintain such menus as part of your collaboration. In the ideal scenario, warehouse leaders would be able to browse this “app store” and install, in their operation, the piece of software best serving their requirements at that given moment.

Taking action now costs you nothing

At Deloitte, we believe in sharing and validating our thinking and approaches with our Clients and with the market. For this reason, we have built a starter version of the Maturity Model, containing 4 of the highest impact categories (Processes, Software & Data, People and Sustainability), with a careful selection of the most powerful subset of elements from our collection of 200+. This fast-to-use application is accessible at no cost by scanning the QR code shown on this page, and it will help assess and describe current maturity levels.



For an additional impact, once a critical mass of companies use this tool, we will be able to also compute industry-based maturity benchmarks, which will equally become openly accessible to each user. All the early adopters, who would use the tool before that critical mass is achieved, will retroactively receive their tailored benchmarks the moment these become available.

We value learning and giving back; we value sharing and contributing. With the Modular Maturity approach, and specifically by means of its “starter” version, we promise to trustworthily deliver across these dimensions.



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