Connected factories, predictable futures

Automotive Manufacturing Solutions

30th Jun 2022

Focus areas

"Maximize Human-Machine Interface & Collaboration → Industry 5.0"

- ## Multi-tier Supply chain Transparency using Governance and Collaboration* -Global

Cyber-physical systems that connect the world: Connecting man, machine, information and organization for integrated operation

- ## New product development – 3D printing (or) Additive manufacturing* - Global

New technology-driven approach: Adopting disruptive technologies to help adapt products to changing requirements

- ## Digital twin* applications in shop floor & supply chain areas - Regional/Local

Digital twins: Simulation and testing before actual implementation to ensure product precision and faster execution without bottlenecks
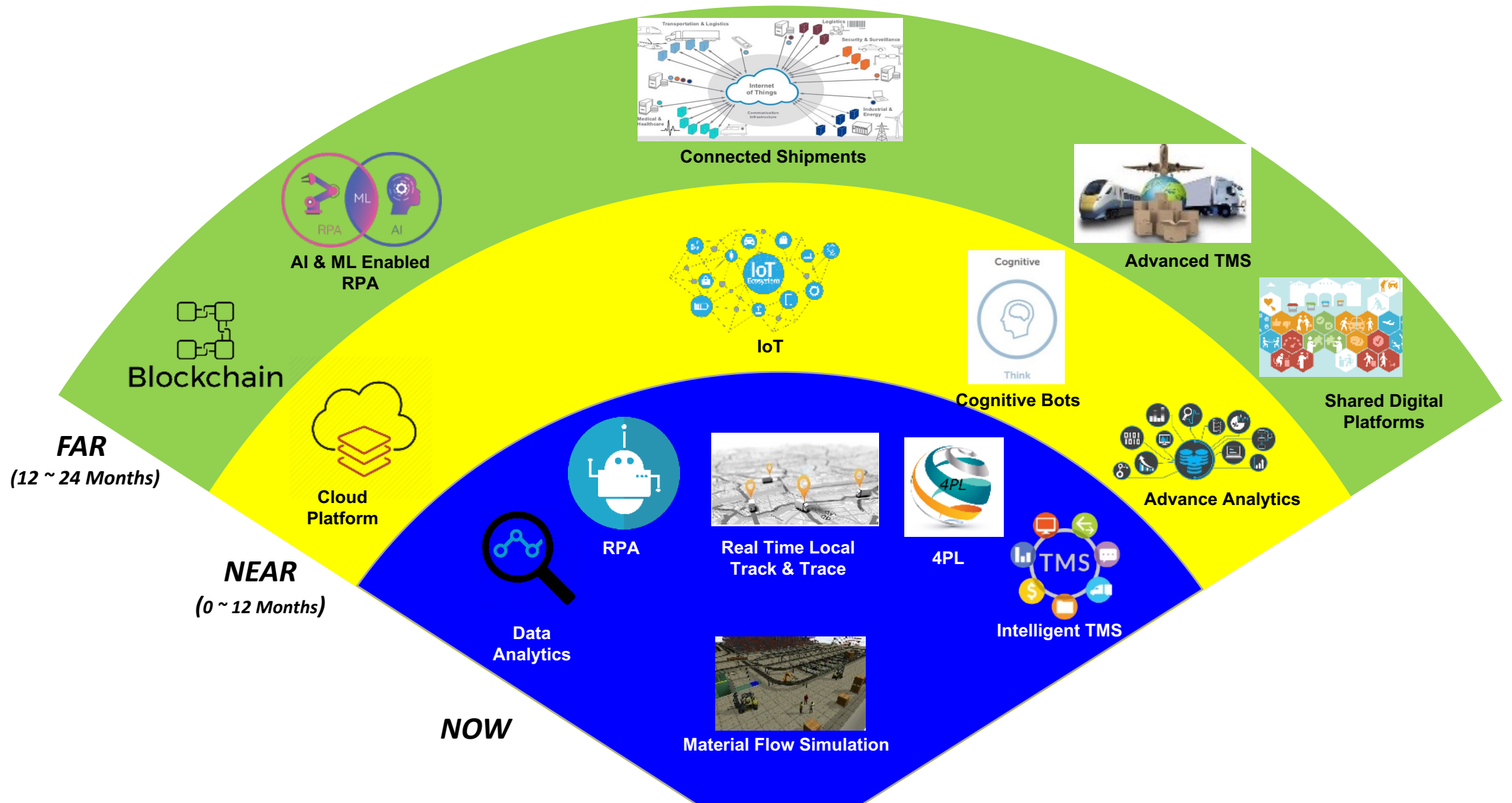
Examples:
   a)   Energy conservation of stamping presses using IIOT sensors,
   b)   Shopfloor/yard capacity assessments – volume/mix changes/NP intro.
   c)   Discrete event simulation tools in various what-if studies, and
   d)   Big data analytics assessment for demand forecasting.

Adaptability is a KEY more than investing in Technology.

Please review the reference page

Digitalization Journey

Connected Shipments

AI & ML Enabled RPA

Advanced TMS

Blockchain

IoT

Cognitive Bots

Shared Digital Platforms

FAR
(12 ~ 24 Months)

Cloud Platform

Advance Analytics

RPA

Real Time Local Track & Trace

4PL

Intelligent TMS

Data Analytics

NEAR
(0 ~ 12 Months)

NOW

Material Flow Simulation

To Increase Customer experience → Traceability, Mobility, Connectivity, Visibility, and on Real-time basis

References

- Balakrishnan A.S. and Ramanathan, U. (2021), "The role of digital technologies in supply chain resilience for emerging markets' automotive sector", *Supply Chain Management*, Vol. 26 No. 6, pp. 654-671. https://doi.org/10.1108/SCM-07-2020-0342

- Balakrishnan, A.S. and Ramanathan, U. (2022), "Supply chain transparency for sustainability – an intervention-based research approach", International Journal of Operations & Production Management, Vol. 42 No. 7, pp. 995-1021. https://doi.org/10.1108/IJOPM-11-2021-0684