

Industrie du Futur

Responsables : Julie LE CARDINAL (Julie.le-cardinal@centralesupelec.fr)
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Les enseignants-chercheurs



Les doctorants



Les publications

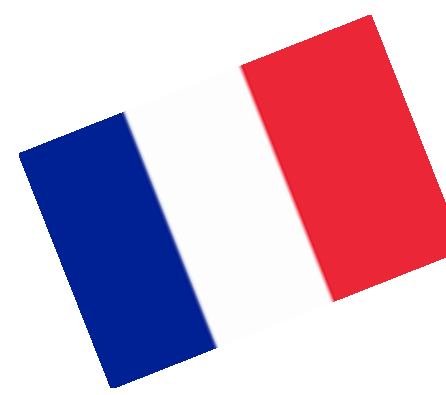
- M. E. A. Boudella, E. Sahin, and Y. Dallery, "Kitting optimisation in Just-in-Time mixed-model assembly lines: assigning parts to pickers in a hybrid robot-operator kitting system," Int. J. Prod. Res., vol. 56, no. 16, pp. 5475-5494, 2018.
- Benjamin Legros, Oualid Jouini, Yves Dallery, A flexible architecture for call centers with skill-based routing, International Journal of Production Economics (IJPE), 2015, 159 (192-207)
- Rowan Wang, Oualid Jouini, Saif Benjaafar, Service Systems with Finite and Heterogeneous Customer Arrivals, Manufacturing and Service Operations Management, INFORMS, 2014, 16, pp.365-380

Thèses en cours

- Rongyan ZHOU, «Master data management dans le cadre de l'Industrie du futur»
- Shaohua YU, «Optimization models and methods for tour planning in smart urban logistics»

Mots clé:

- Usine du futur
- Industrie 4.0
- Smart Manufacturing
- Internet of Things (IoT)
- Cyber-Physical System (CPS)
- Cloud computing
- Robotisation
- Simulation
- Systèmes d'information
- Internet industriel des objets
- Cybersécurité
- Fabrication additive
- Réalité augmentée



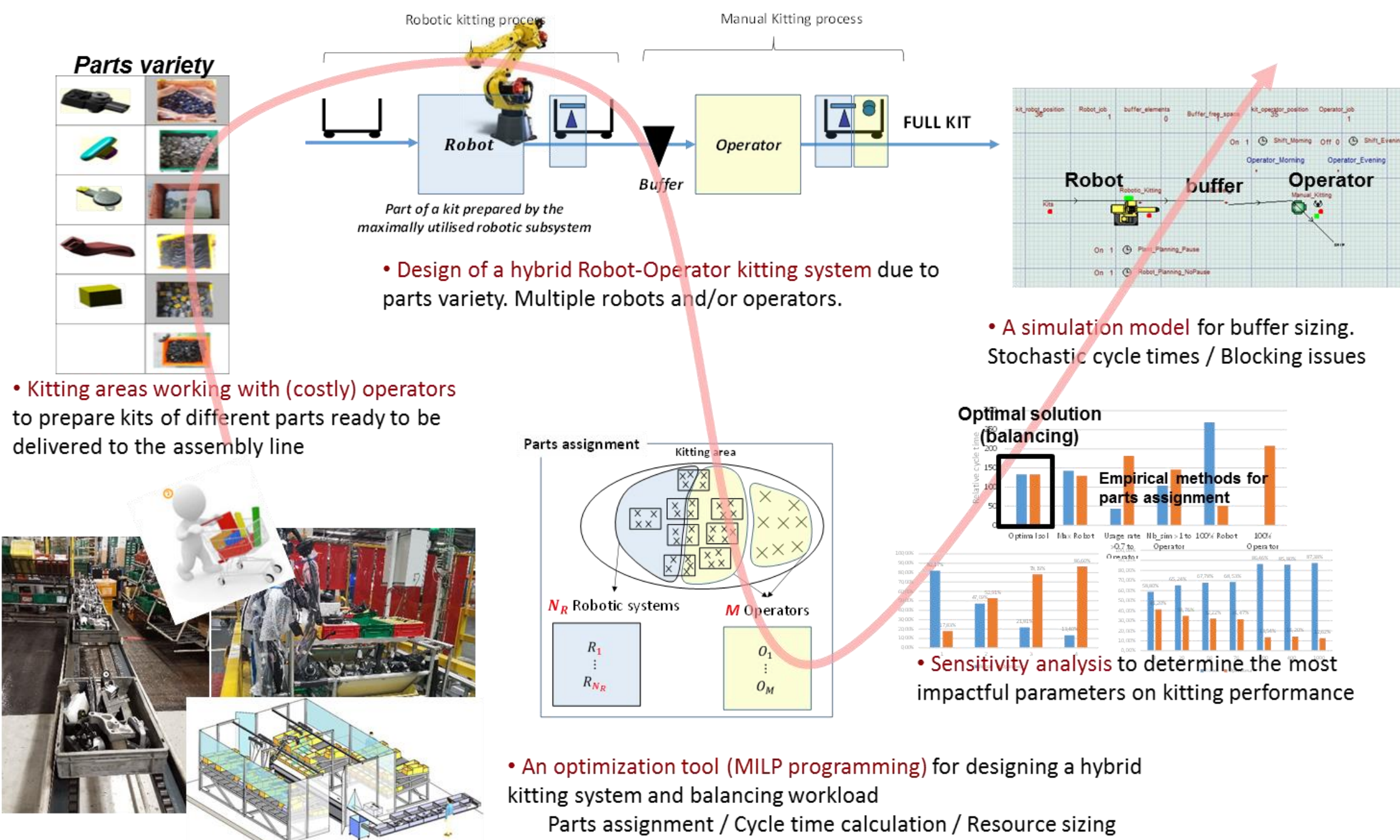
• **En France** : « Usine du futur » plus respectueuse de son environnement, grâce à des modes de production moins consommateurs de ressources et moins générateurs de rejets, plus intelligente et flexible, repensant l'interface homme-machine.

• **Aux Etats-Unis** : Advanced manufacturing (programme National Network for Manufacturing Innovation) – Fabrication de nouveaux produits issus de nouvelles technologies, puis de nouveaux modes de fabrication de produits existants.

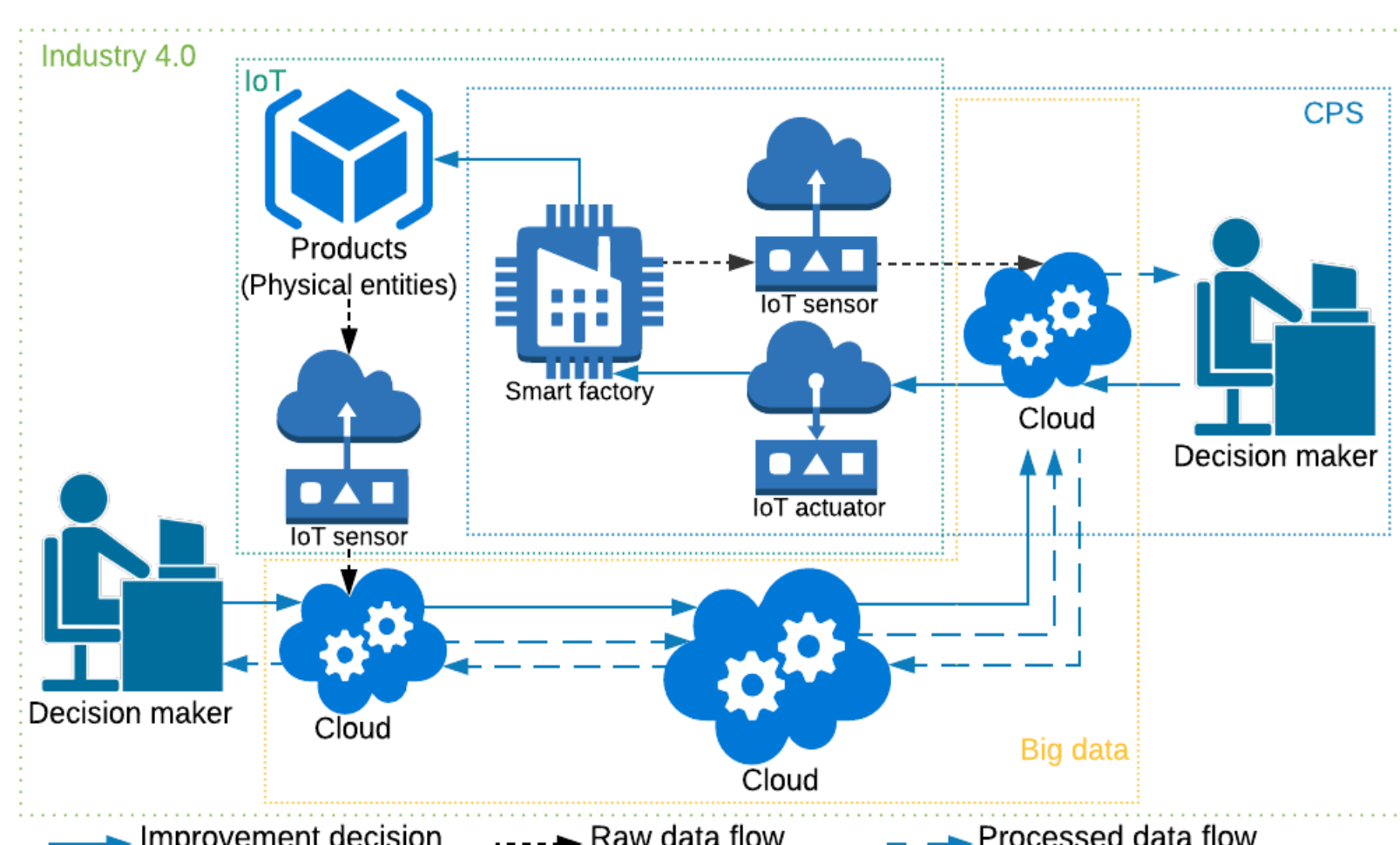
• **En Allemagne** : C'est la 4^{ème} révolution industrielle. L'intégration digitale touche tout l'environnement de l'usine, des systèmes de production à la logistique, en passant par les systèmes d'information et de communication de l'usine.

La recherche

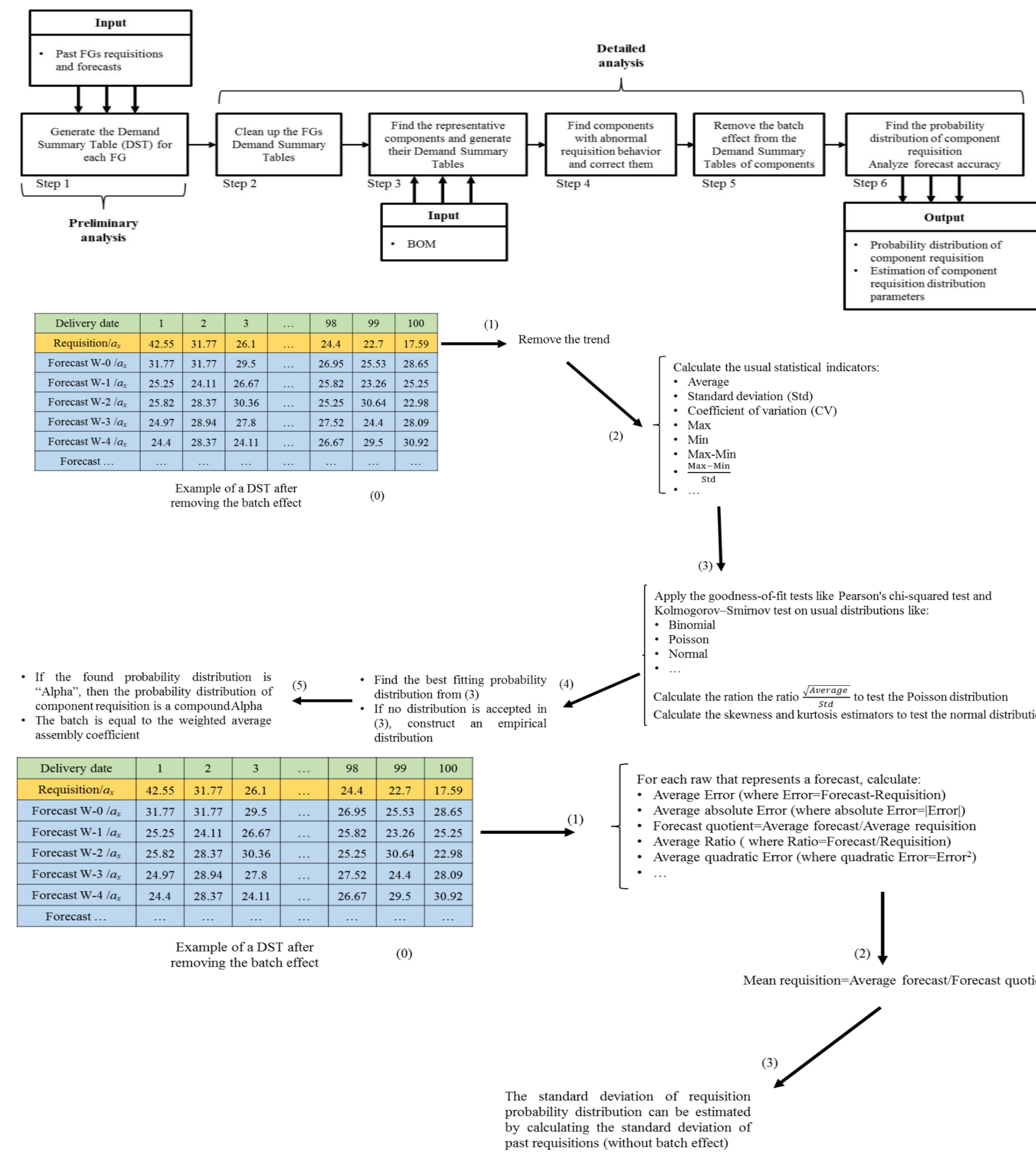
Smart Factory & Industry 4.0: Design of a Hybrid Robot / Operator Kitting System for Car Assembly (Mohamed El Amine BOUDELLA)



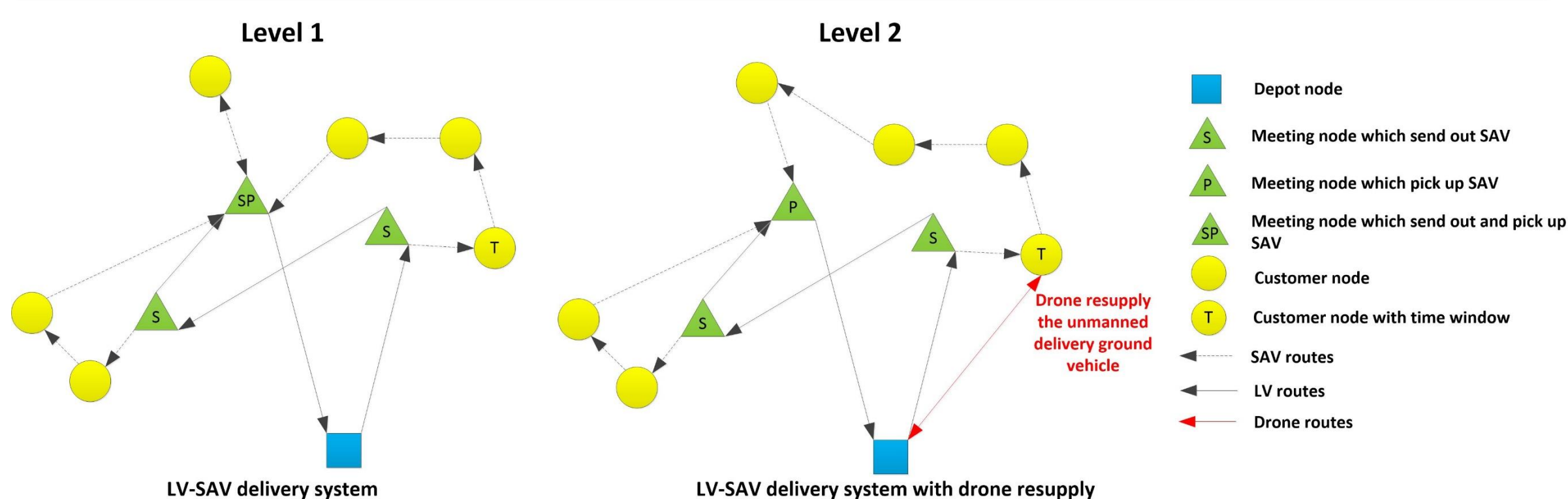
Exploring the impacts of Industry 4.0 from a macroscopic perspective - Proposition of information transmission and decision mode (Rongyan ZHOU, Julie Le cardinal)



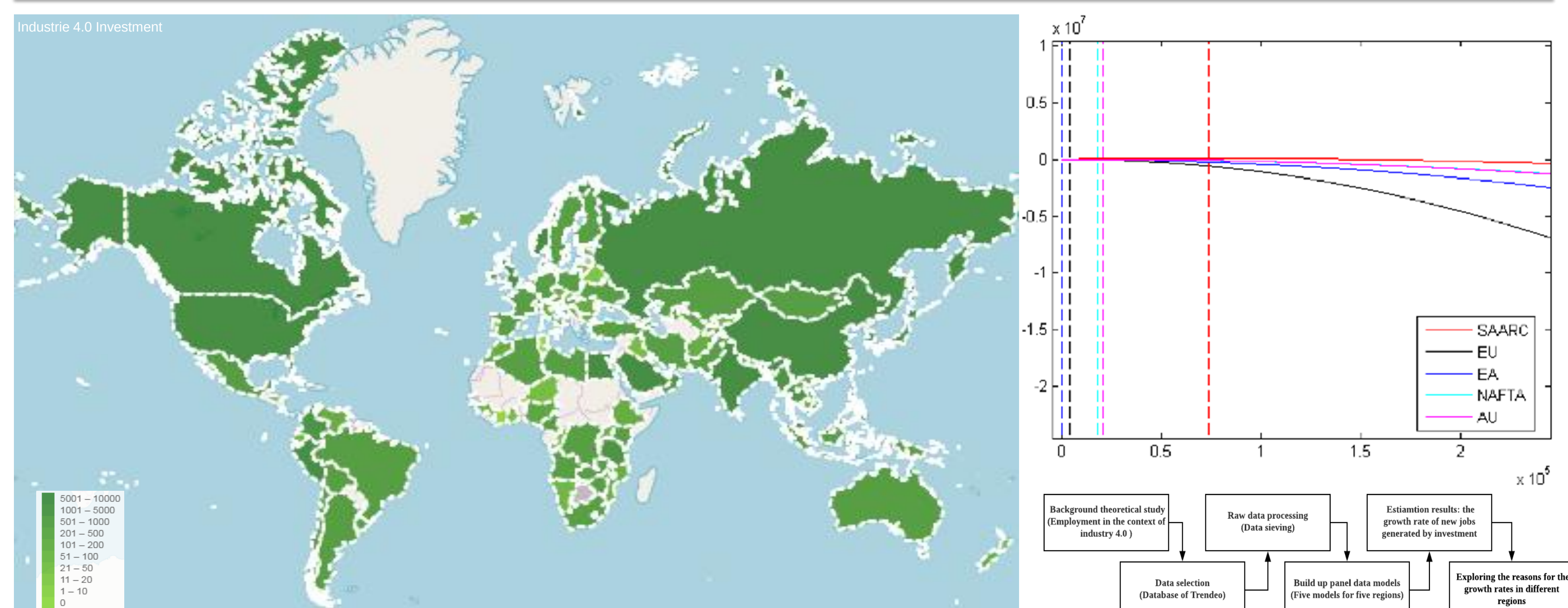
Proposition of a Method enabling Components Requisitions and Forecasts Analysis in Assemble-to-Order Systems (Mohammed Hichame BENBITOUR, Evren SAHIN, Yves DALLERY)



Optimization models and methods for tour planning in smart urban logistics - From LV-SAV delivery system to LV-SAV-DRONE delivery system (Shaohua YU)



Employment Analysis Based on Panel Data in the Background of Industry 4.0 - Trend of new jobs generated by Industry 4.0 investment (Rongyan Zhou, Julie Le Cardinal)



Kitting optimization in Just-in-Time mixed-model assembly lines: assigning parts to pickers in a hybrid robot-operator kitting system - Operations performed in a hybrid kitting system (Boudella, M. E. A., Sahin, E. and Dallery, Y.)

