

AI FOR INDUSTRY 4.0

HACKATHON

Introduction of the scenario

Scenario: Dairy Product Packaging

A factory receives **containers** (pots of yoghurt) and stocks of **consumable** (yoghurt) from suppliers. Containers are **filled** and **packaged** at the factory to be sold for retail.



Image: Integrated filling/packaging machine for dairy products – www.galdi.it

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Image: reconfigurable workstations for filling and packaging –
www.erm-automatismes.com and
apps.boschrexroth.com

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Industry 4.0

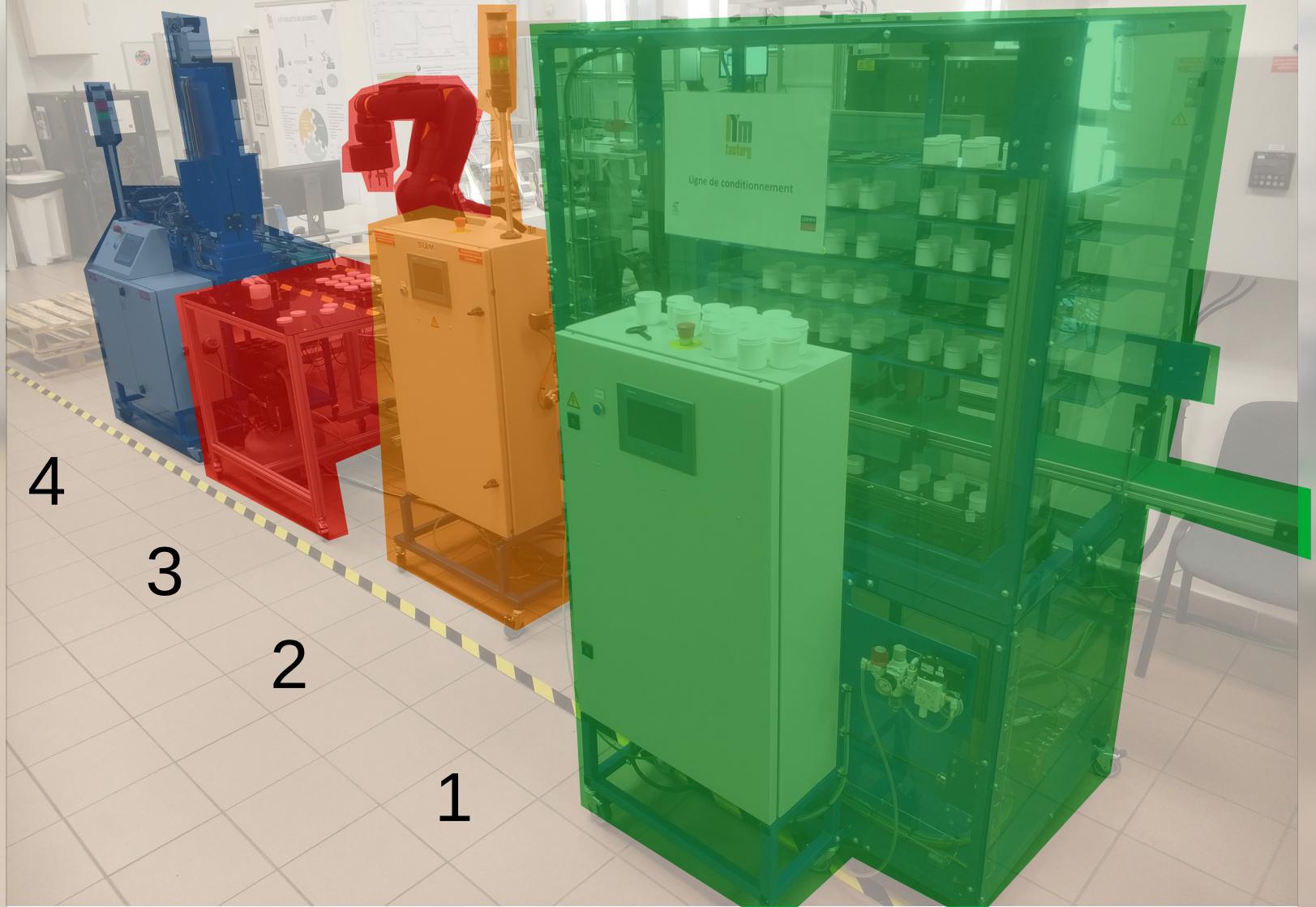


Image: **reconfigurable** workstations for filling and packaging –
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Packaging Process: Four Steps

- 1) Pick container from storage rack
- 2) Fill container with consumable
- 3) Close container with a lid
- 4) Package container (size 4 or 6)

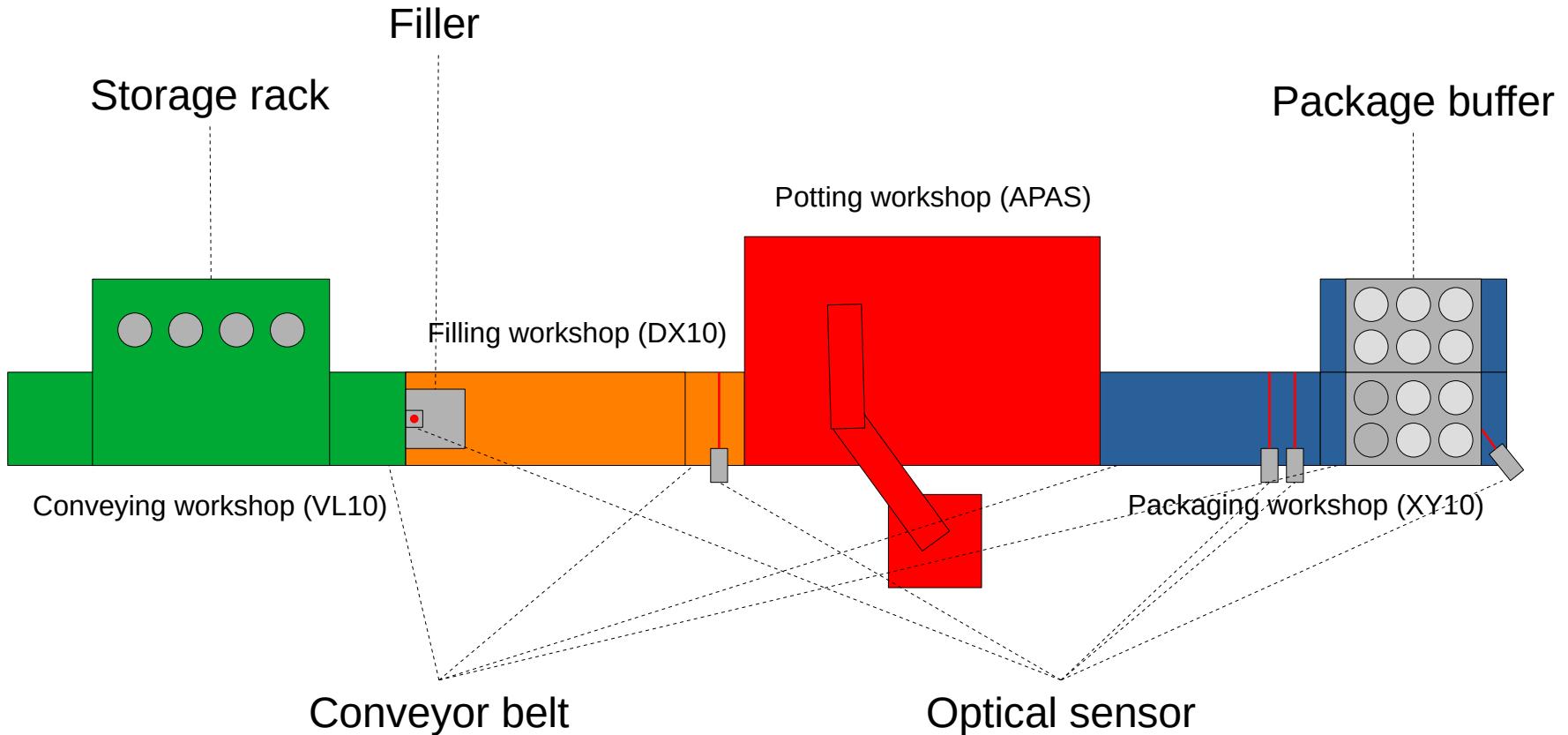




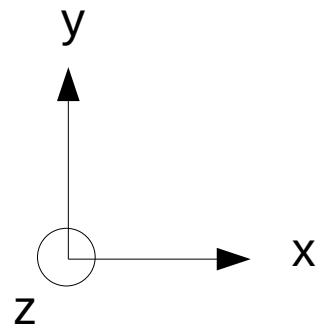
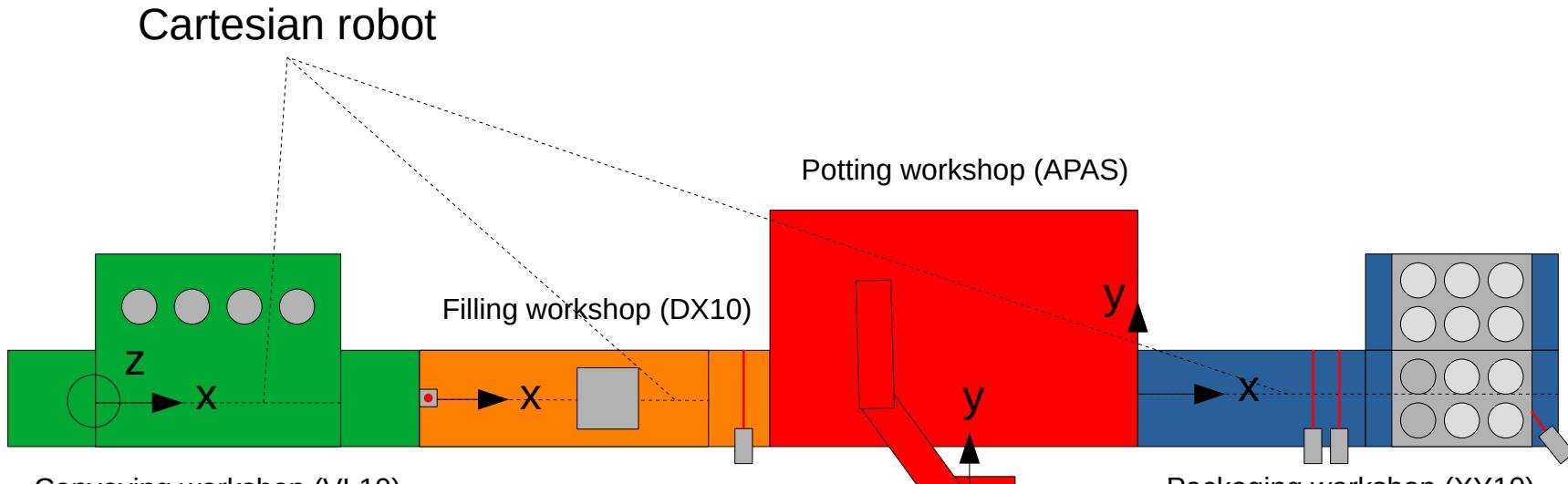




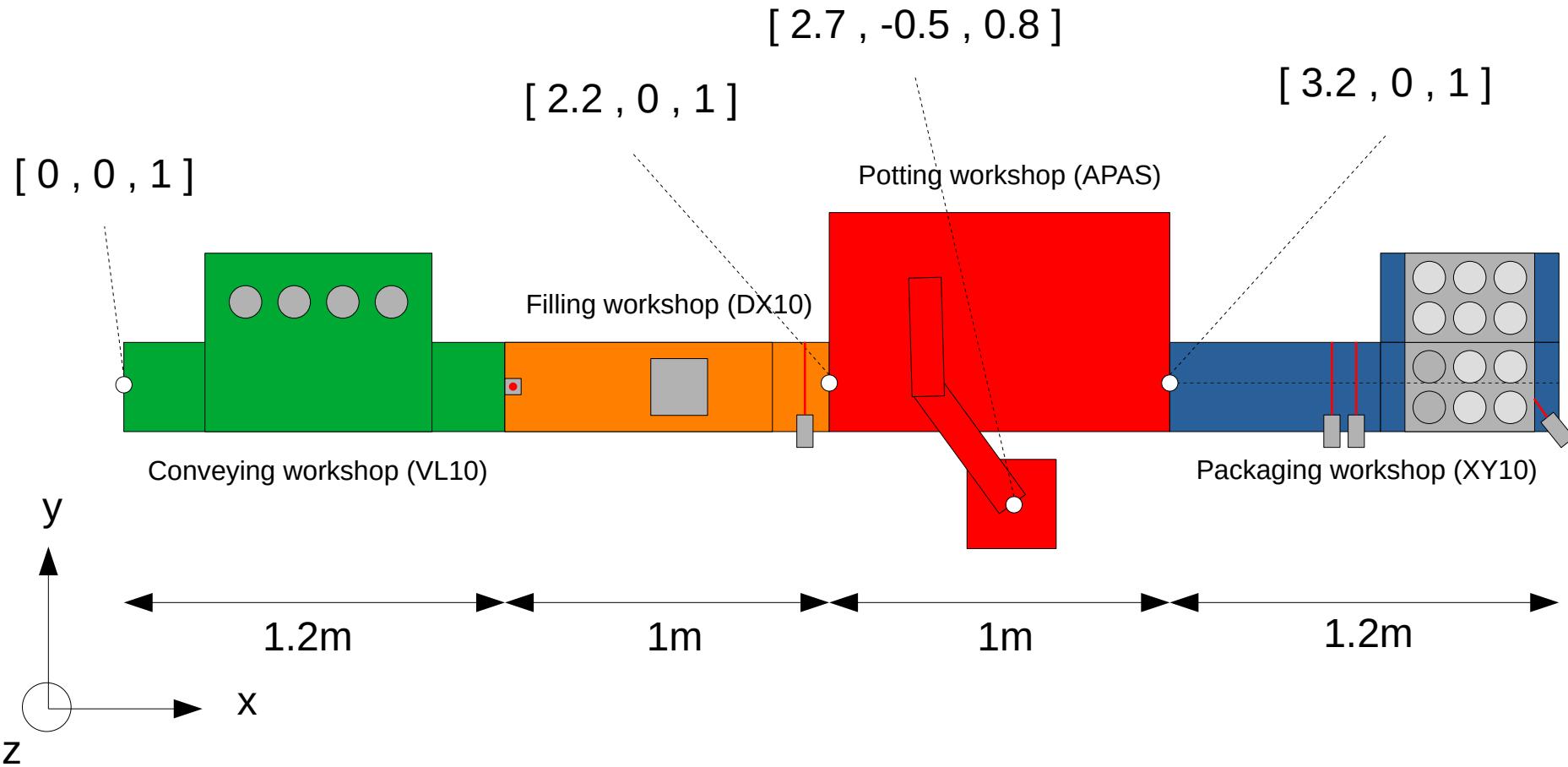
(Simulated) Factory line



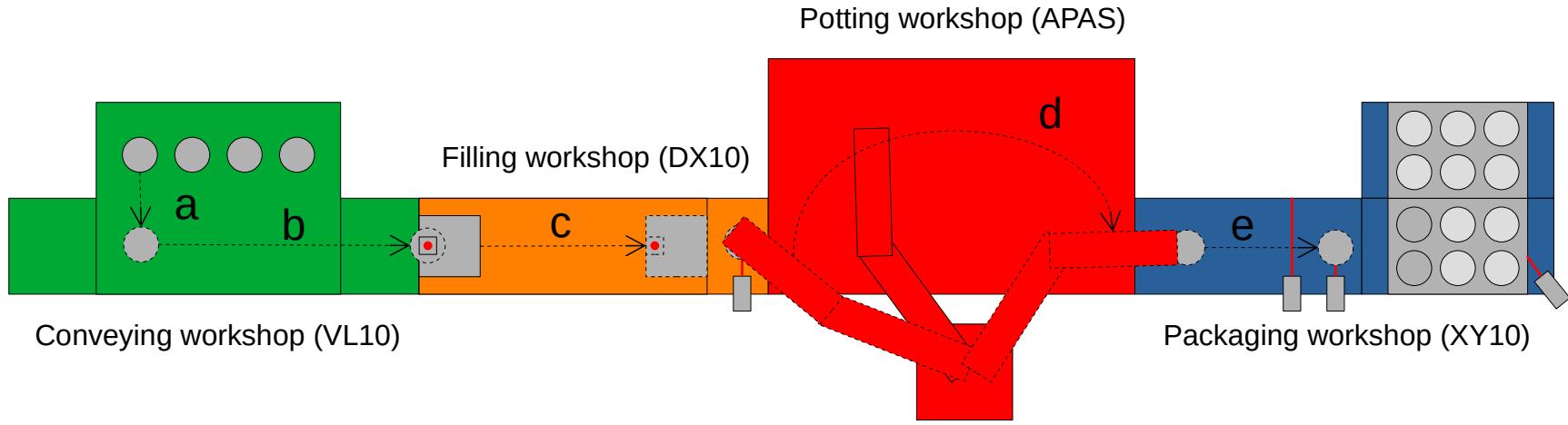
(Simulated) Factory line



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(a) Cartesian robot pick container

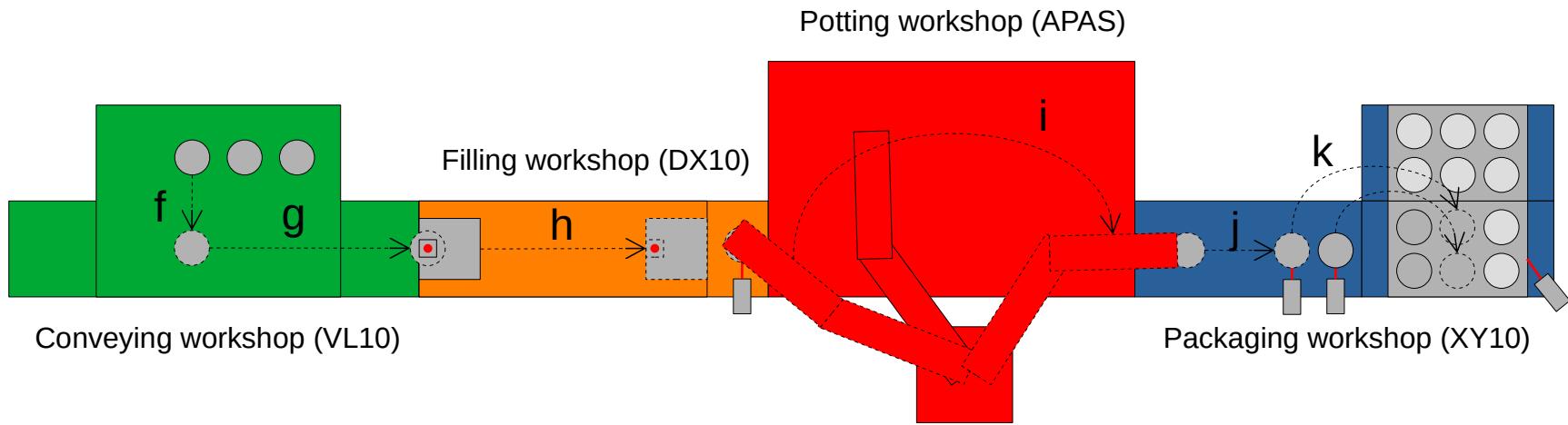
(b) Container moves to head of conveyor

(c) Filler opens valve and follows container

(d) Robot arm moves container to next workshop

(e) Container moves to first slot of first conveyor

(Simulated) Factory line



(f)Cartesian robot pick container

(g)Container moves to head of conveyor

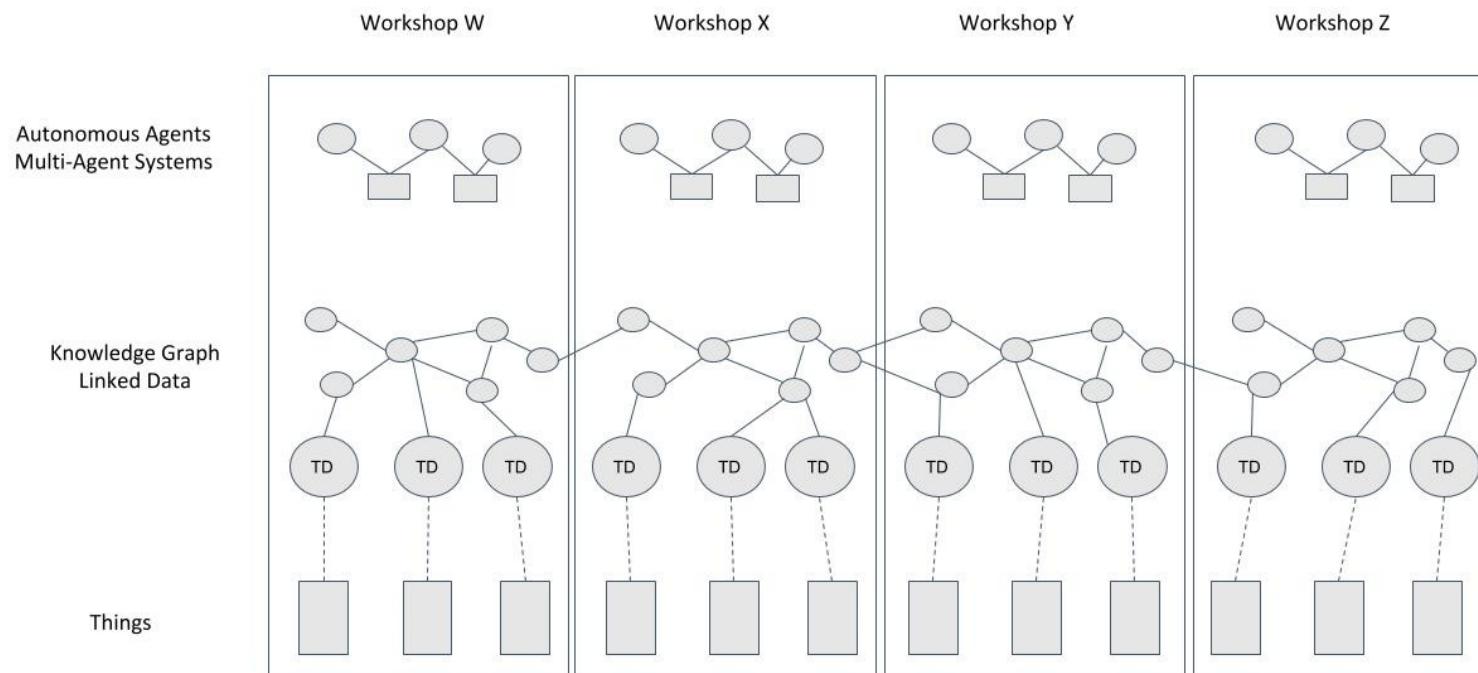
(h)Filler opens valve and follows container

(i)Robot arm moves container to next workshop

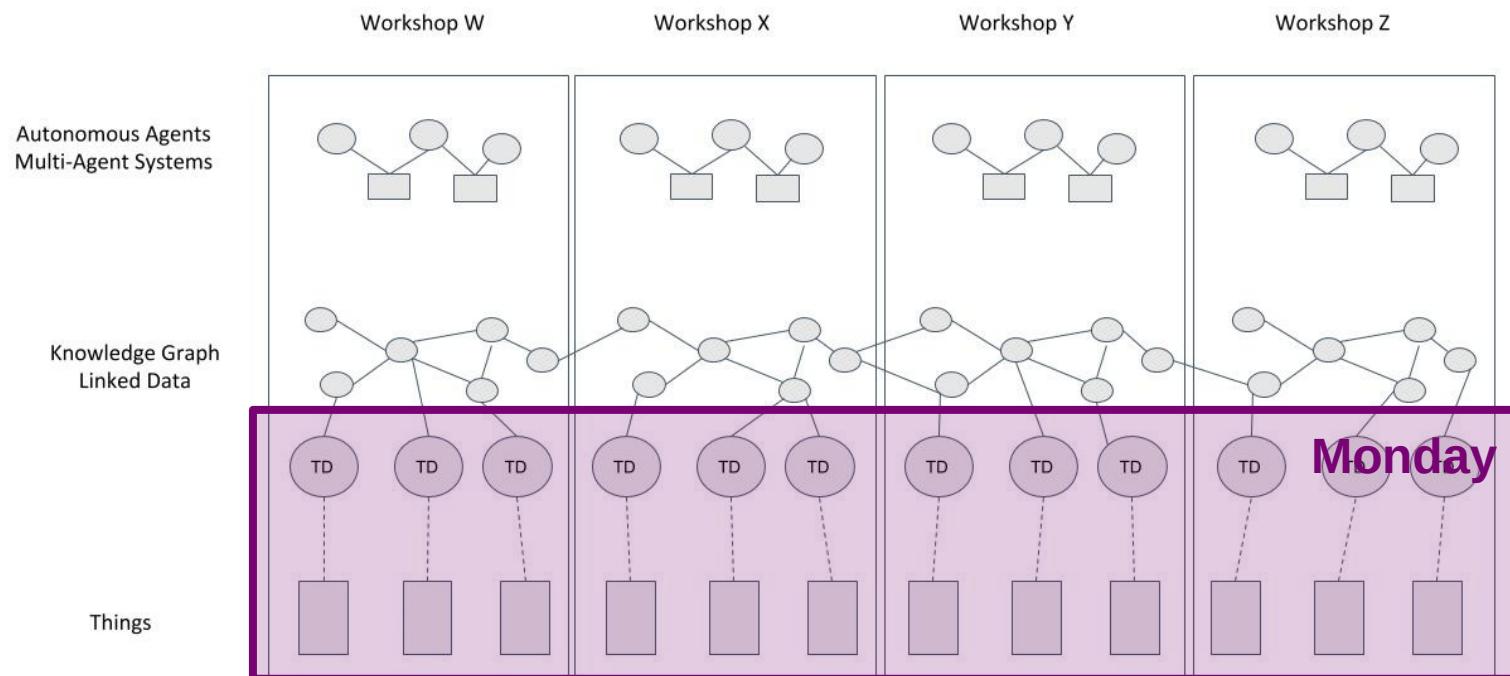
(j)Container moves to second slot of first conveyor

(k)Cartesian robot puts pair of containers in package

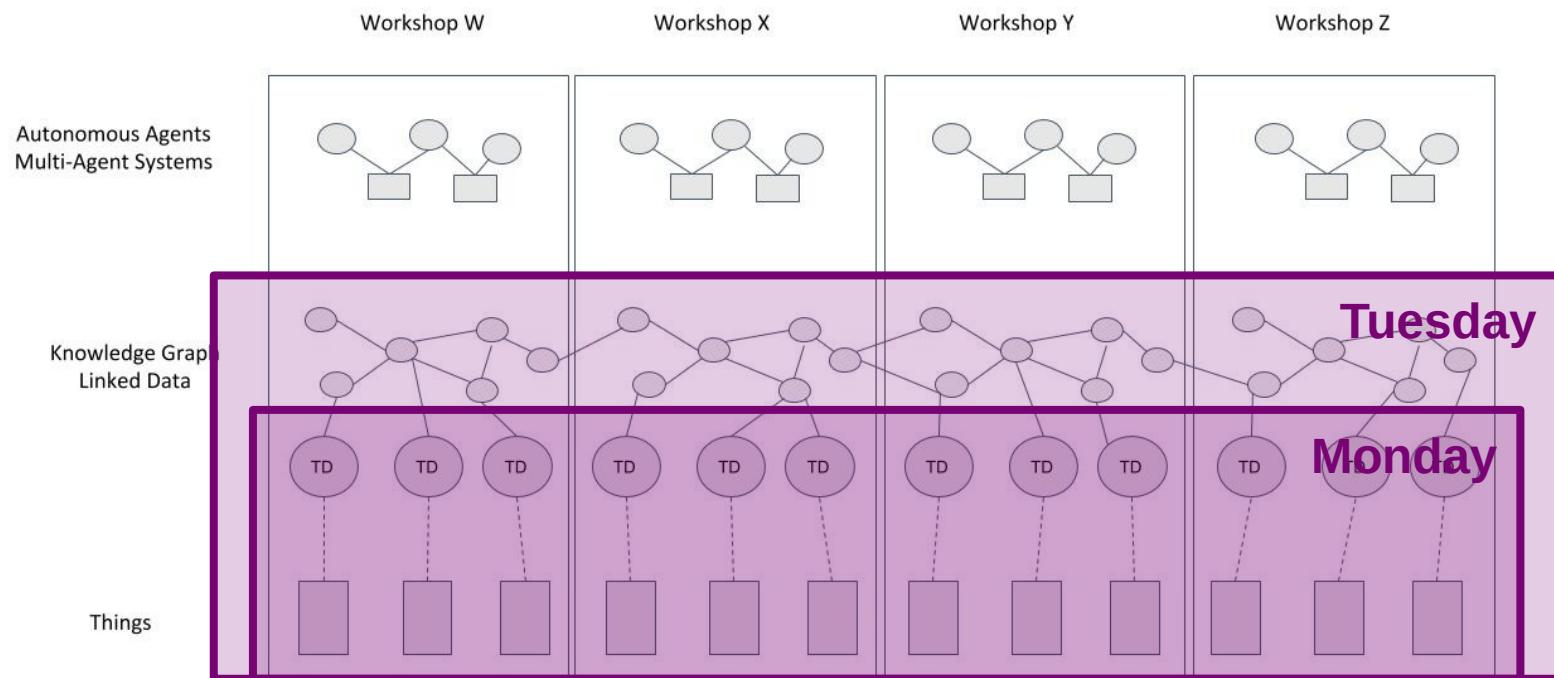
Scope of the Hackathon



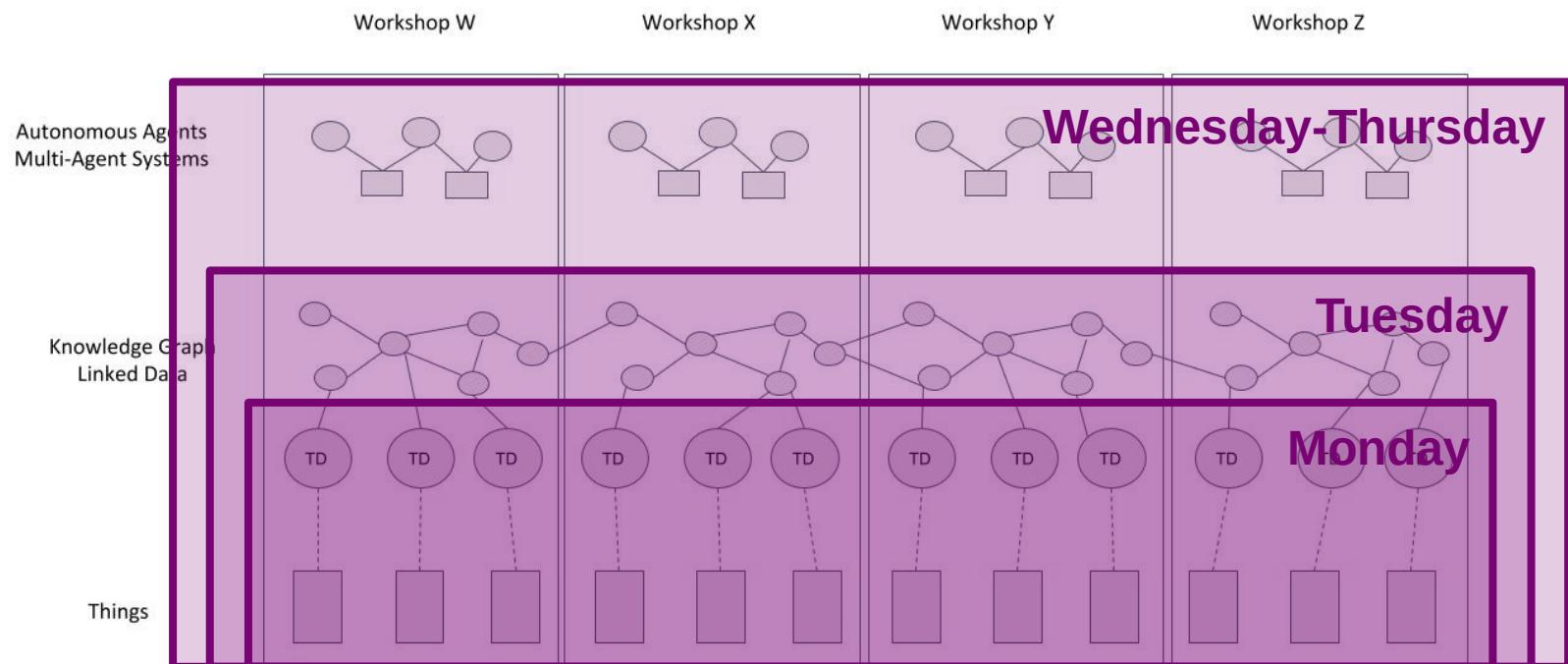
Scope of the Hackathon



Scope of the Hackathon



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Schedule

Organization

- Groups of six persons
- Presentations (15 min each + Q&A)
 - Technical demonstration
 - Feedback to organizers
- Gitlab for code and documentation
 - <https://gitlab.emse.fr/ai4industry/hackathon/>
- Mattermost for technical questions
 - <https://mattermost.emse.fr/hackathon/>

A man with long hair and sunglasses walks down a grocery store aisle. He is wearing a light-colored trench coat over a white shirt. The aisle is filled with various products on shelves. In the background, there is a sign for "Price Chopper" and a logo for "Safeway Southern California".

Good luck.