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Technology of an Optical Sorting Plant

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Agenda

- Intro to Envac and Lybover
- Brief history of optical sorting
- Optical sorting technology in Limburg
- Conclusion and Future Development


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What we do – Smart and sustainable cities

Envac – waste collection and sorting solutions

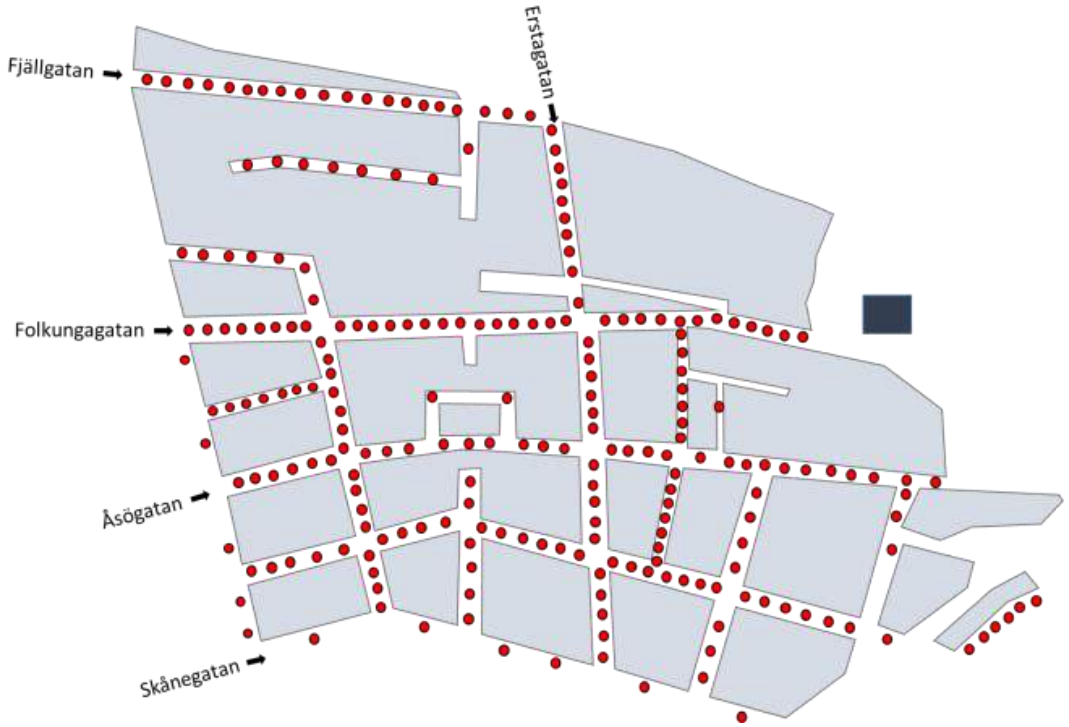
The pneumatic waste collection system

Optical sorting systems

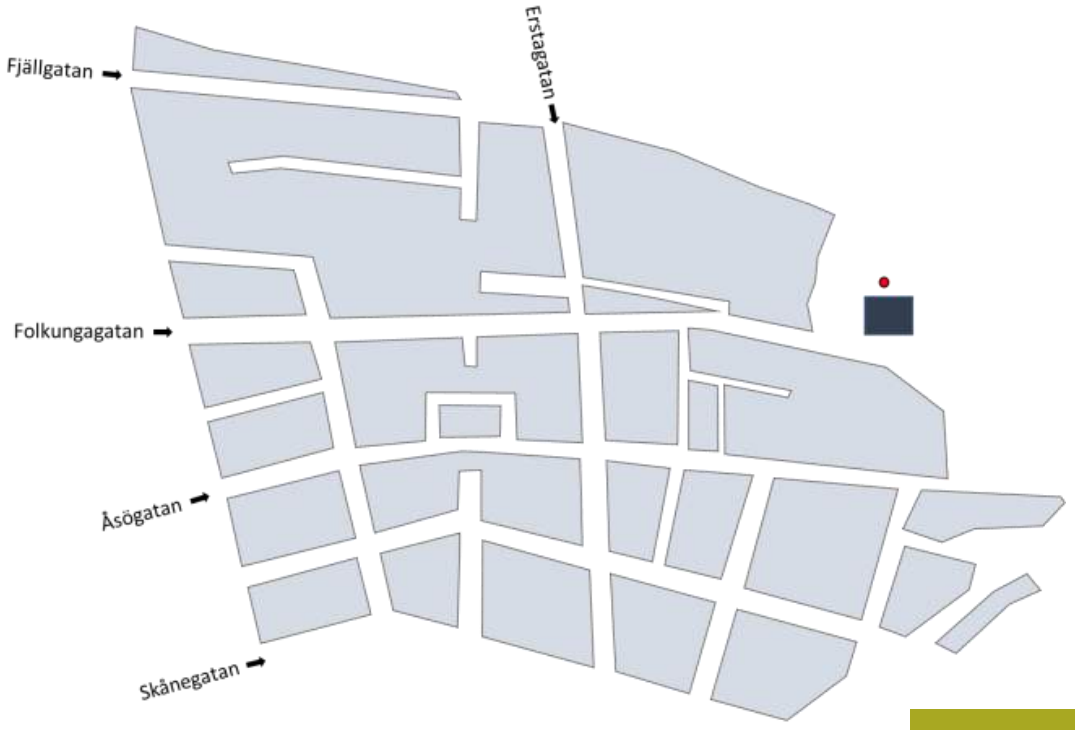
https://vimeo.com/envac
https://www.envacgroup.com
https://www.envacgroup.com/what-we-do/sorting/

Waste collection impact on traffic

Bins



AWCS



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Impact on urban planning and local environment

Bins

AWCS

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Envac - Global presence – Local leadership

ac offices in s

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ON THE WINGS OF ENGINEERING

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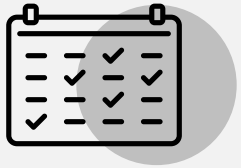
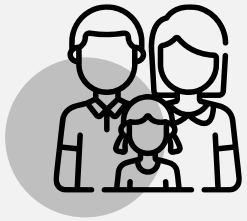
facts & figures

+200
employees

+5000
completed projects





100%
family driven

€60 million
turnover

focus on Europe
with sales reps in 4 countries

2 production sites
Waregem & Brugge

AIR

FIRE

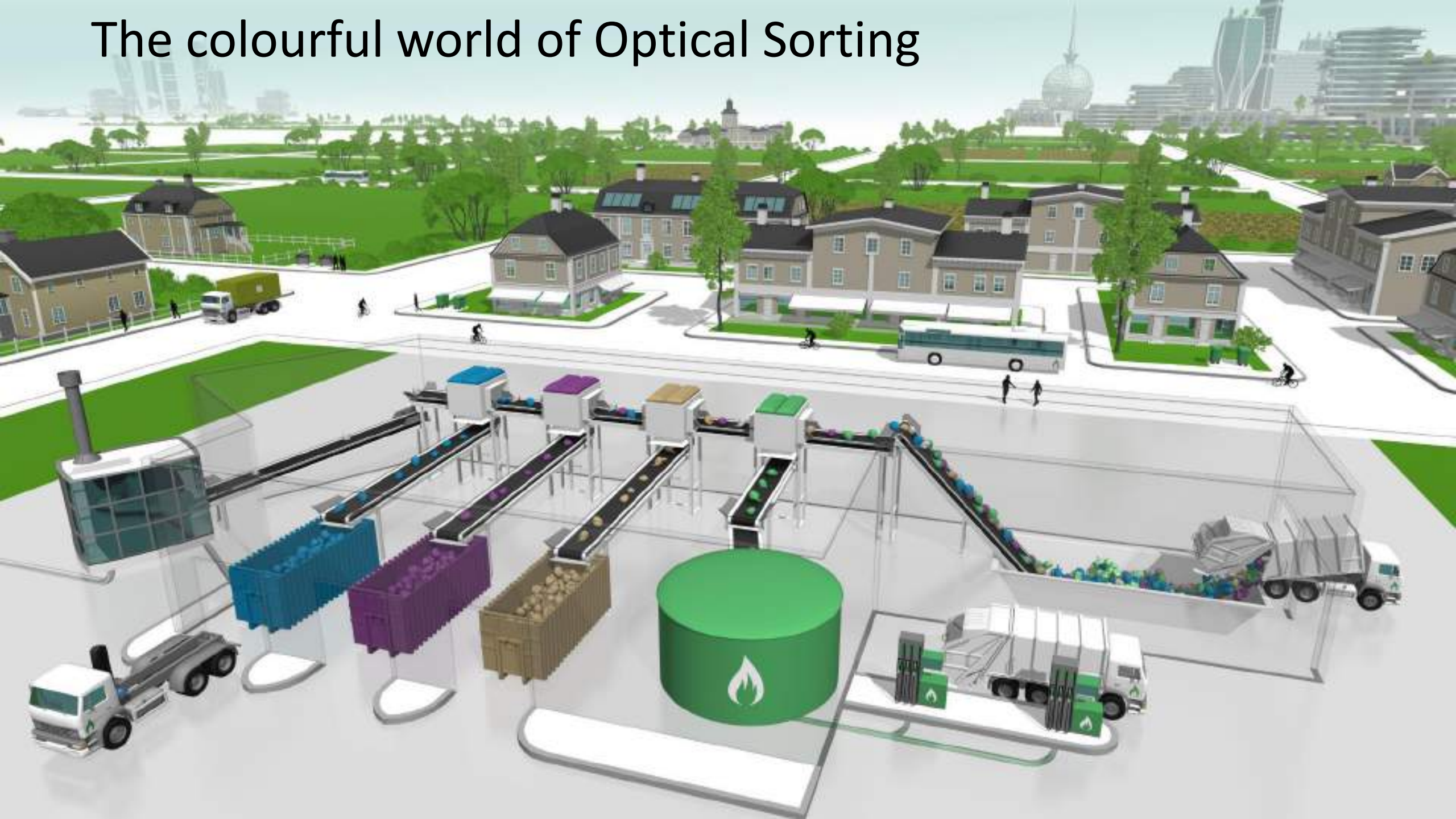
BULK

INSTALLATION

METAL

RECYCLING

The colourful world of Optical Sorting



Why optical sorting?

What the Sorting product does is to enable a municipality to optimise its collection of household waste in to a cost-efficient system without changing the existing collection infrastructure.

References

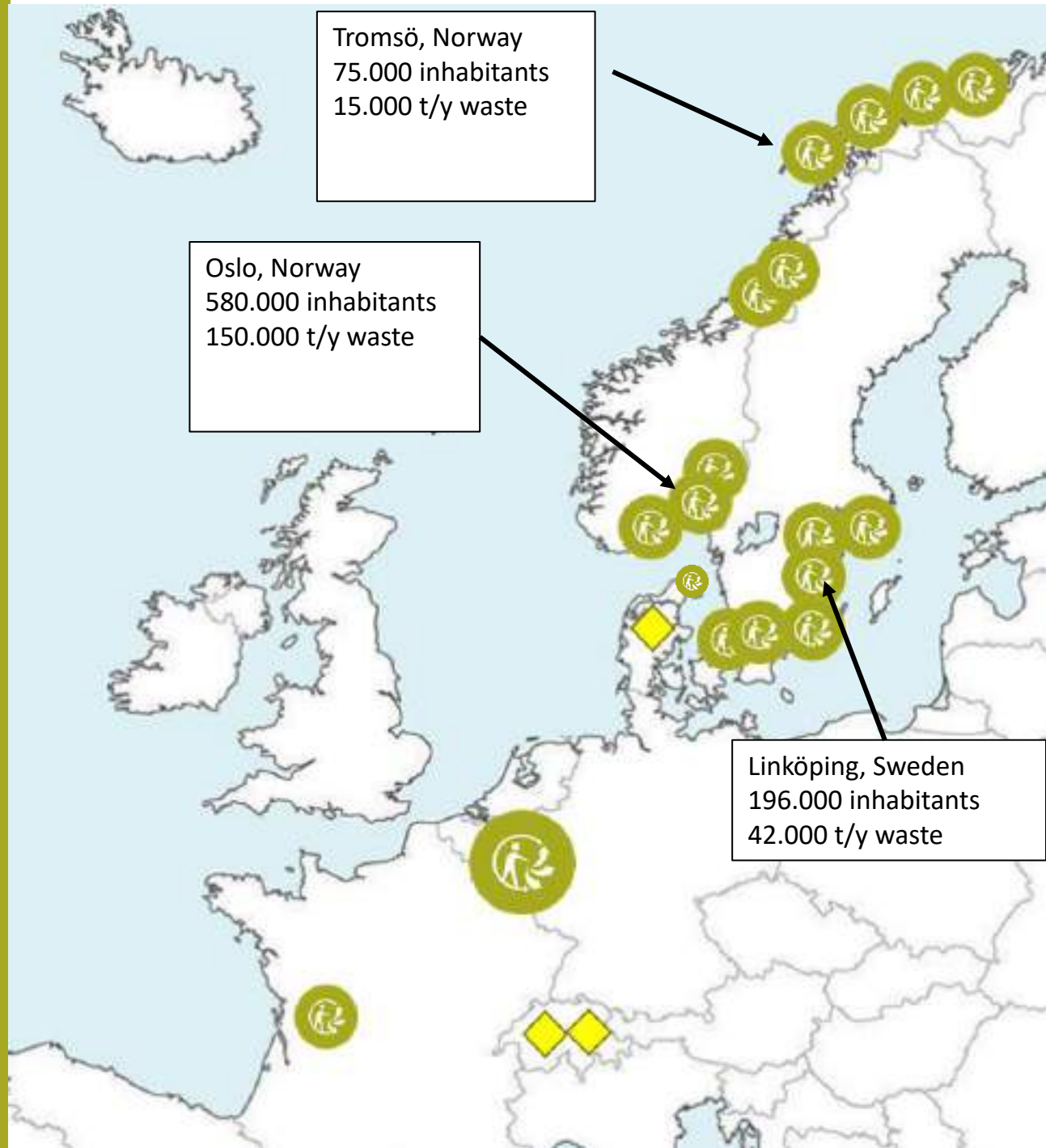
More than 2 million users

Projects under construction

- Portugal - Lissabon
- Sweden - Ljungby

Prospects

- Denmark - Ålborg
- Sweden – several uprades
- Switzerland
- USA

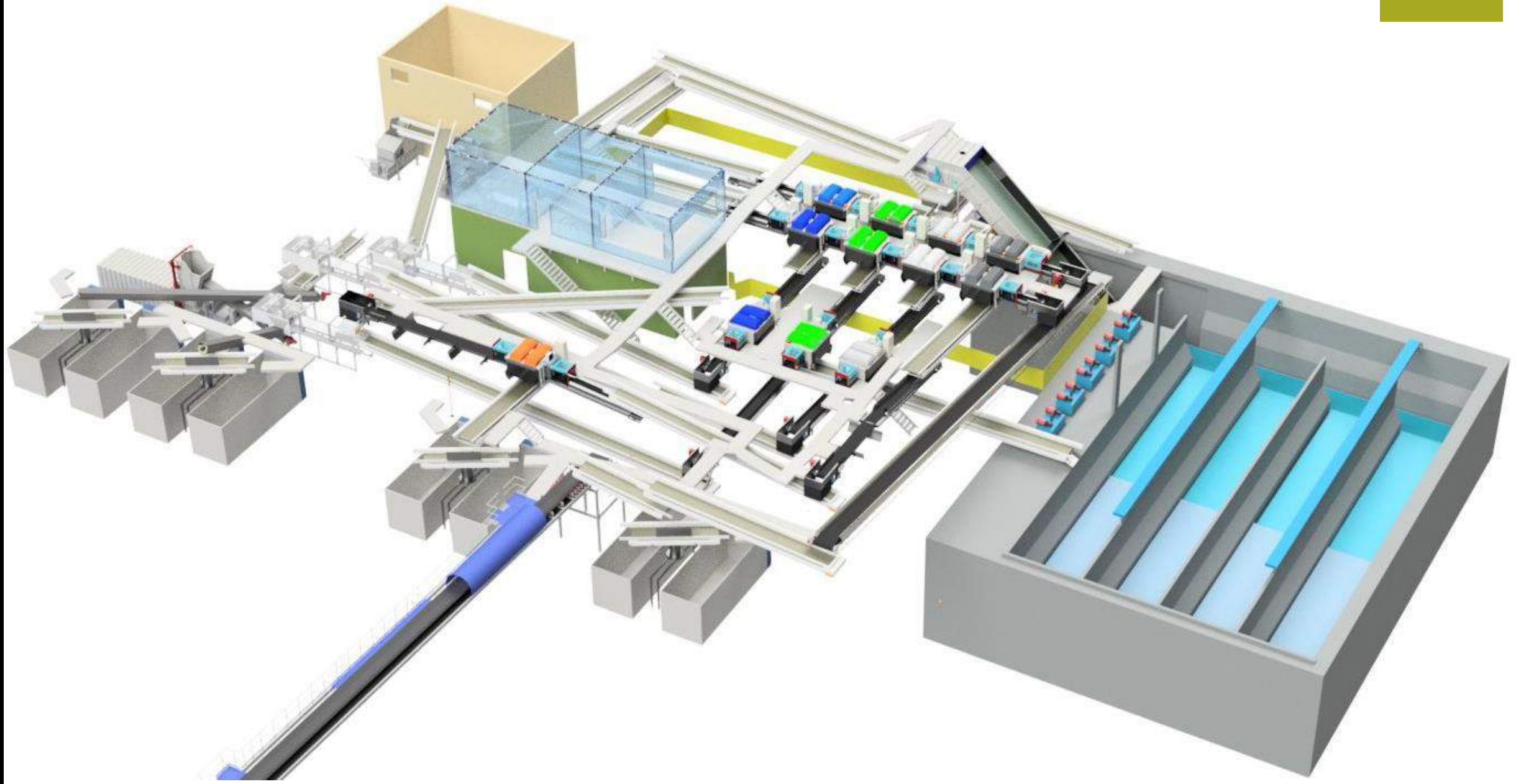


Optical sorting in Eskilstuna - Sweden

Food waste	Green bag
Metal packaging	Grey bag
Plastic packaging	Orange bag
Paper packaging	Yellow bag
Newspaper	Blue bag
Trash	Black bag
Textile	Purple bag

55% diversion of waste from incineration to recycling compared to before optical sorting was introduced

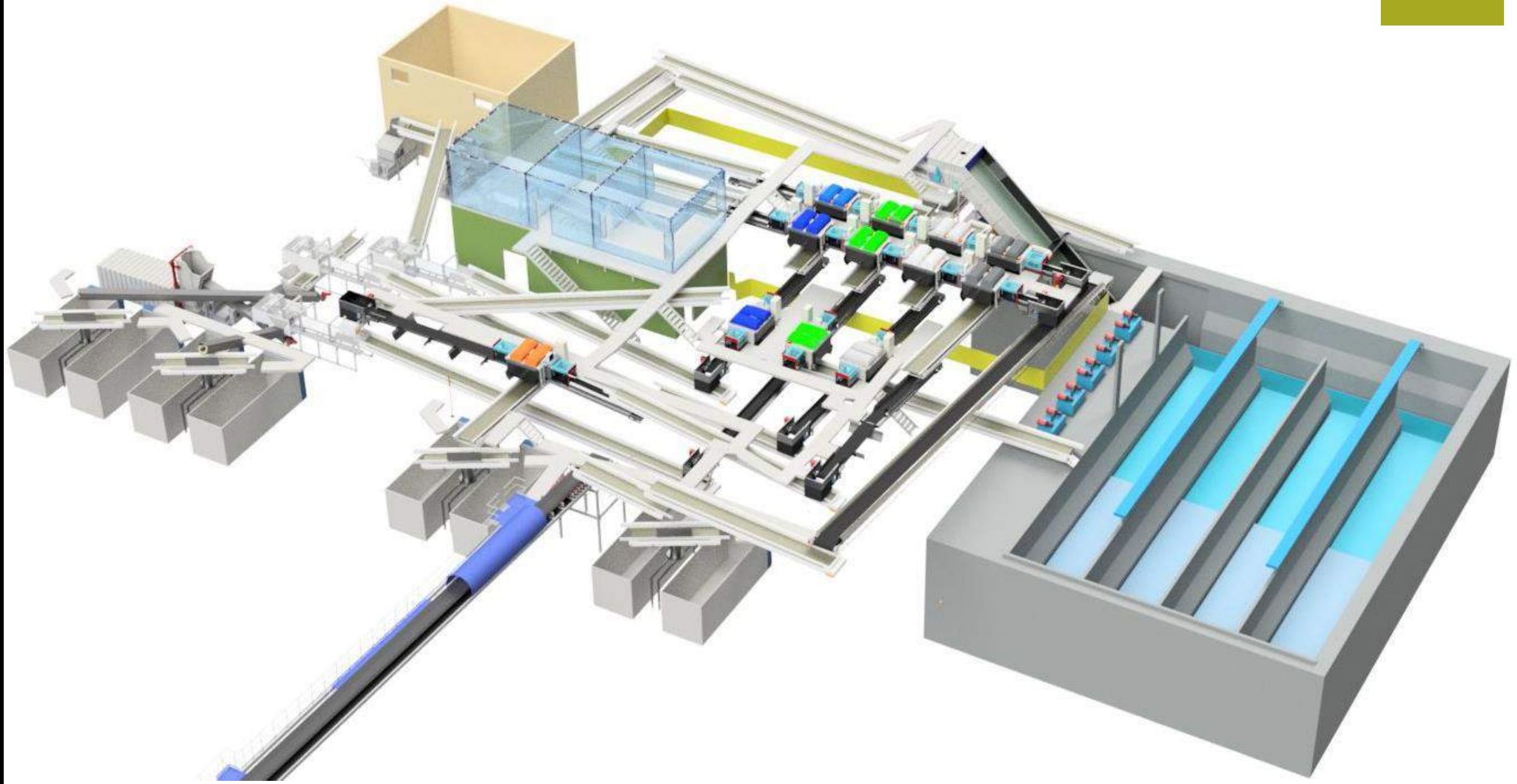
OPTIMO Sorting Plant – Bionerga Beringen



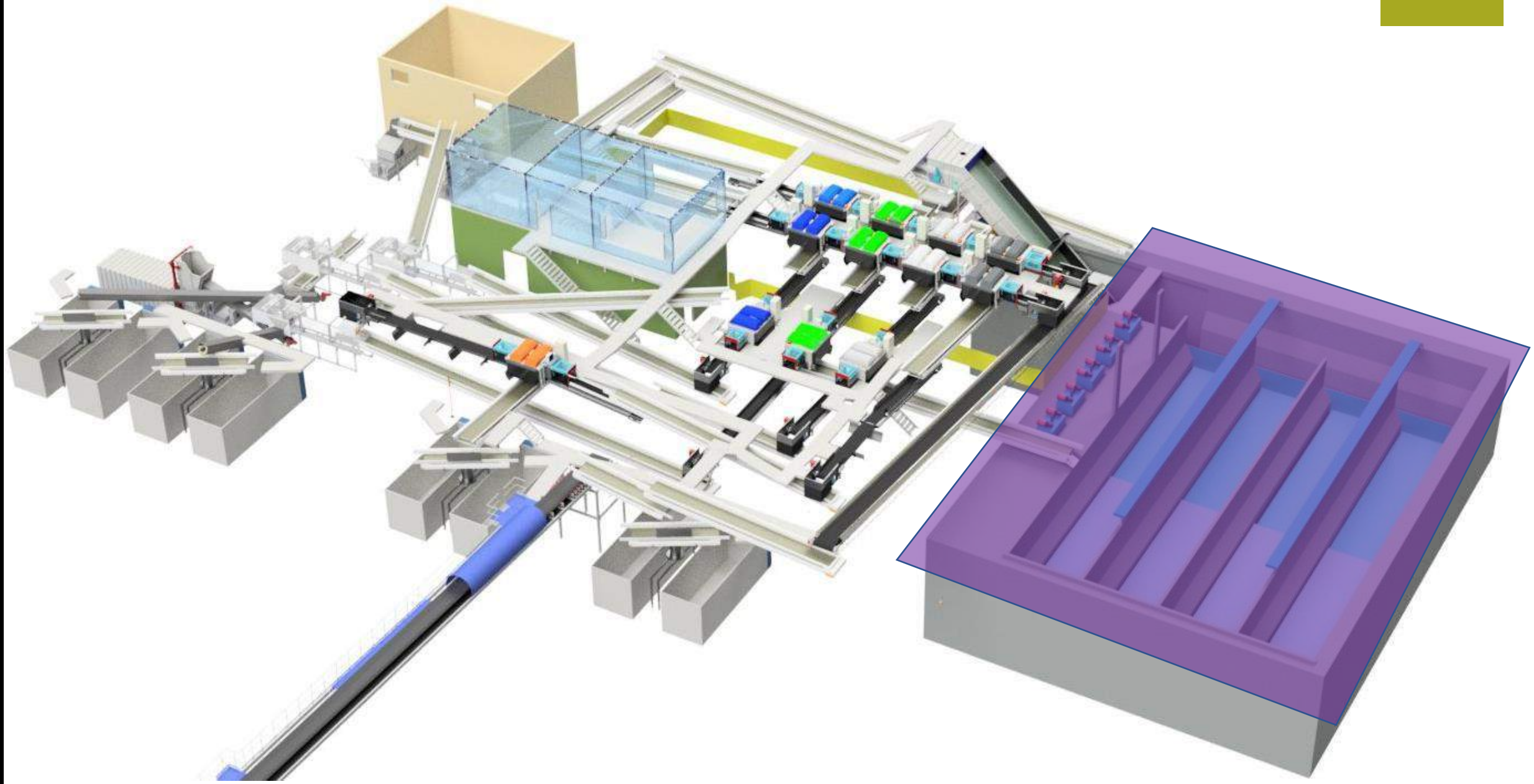
Facts & Figures

- ✓ 800 ton / day
- ✓ 14 000 bags / hour
- ✓ 5 Fractions 
- ✓ #45 Conveyor Belts – Total length +650m
- ✓ 4 +1 Lane Waste Bunker
- ✓ 12 Double Pusher Units

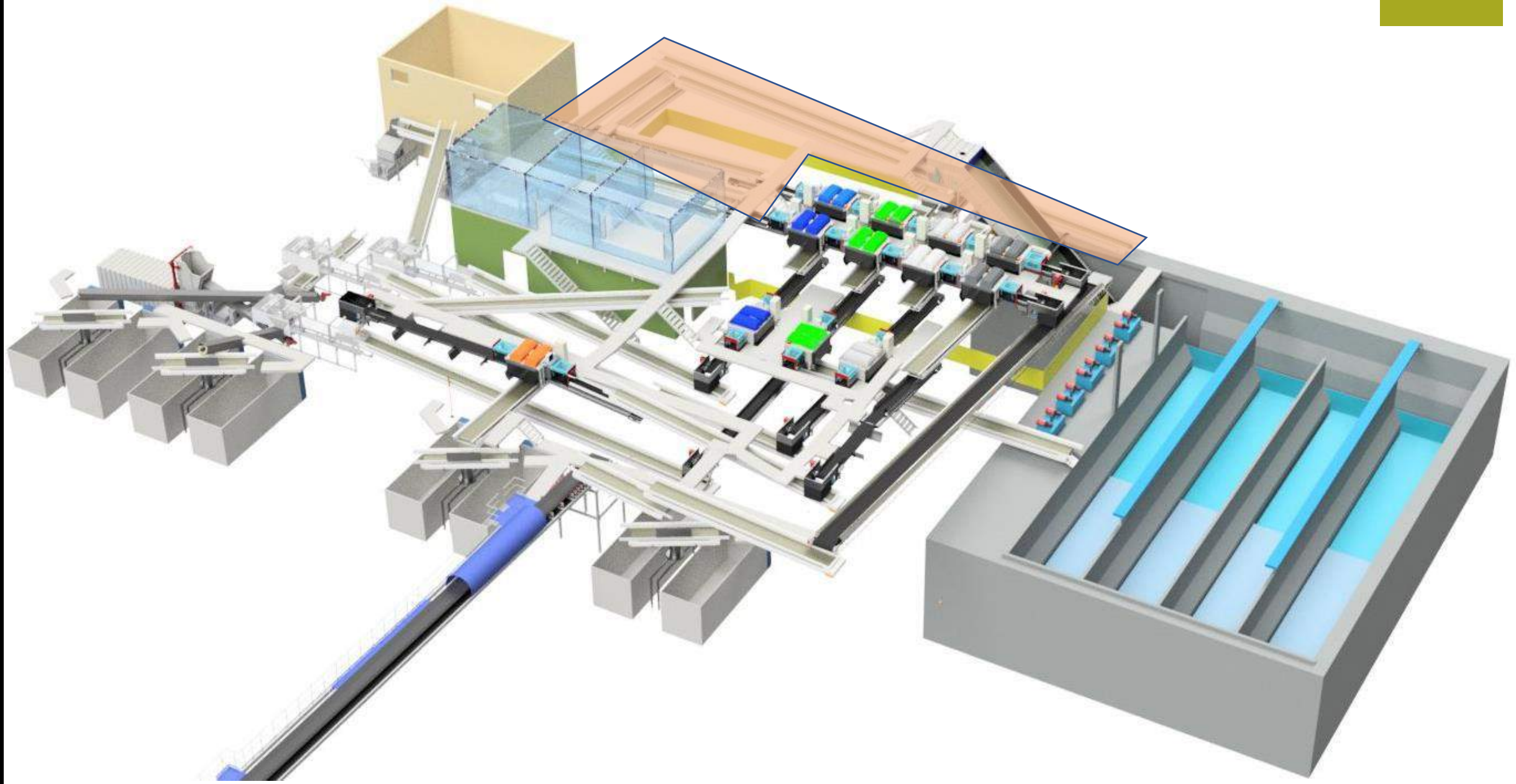
Areas of an Optical Sorting Plant



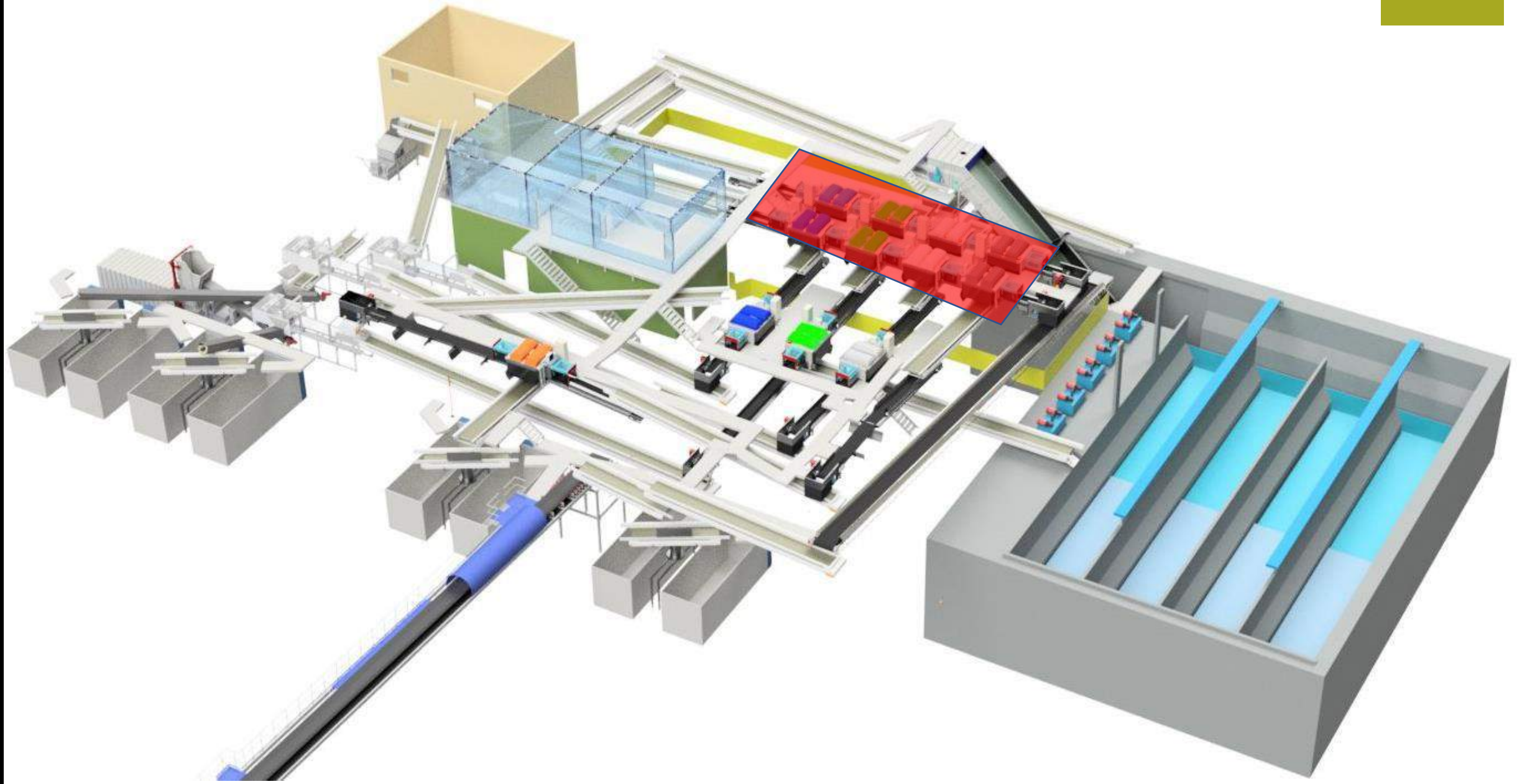
Reception and Buffer Area



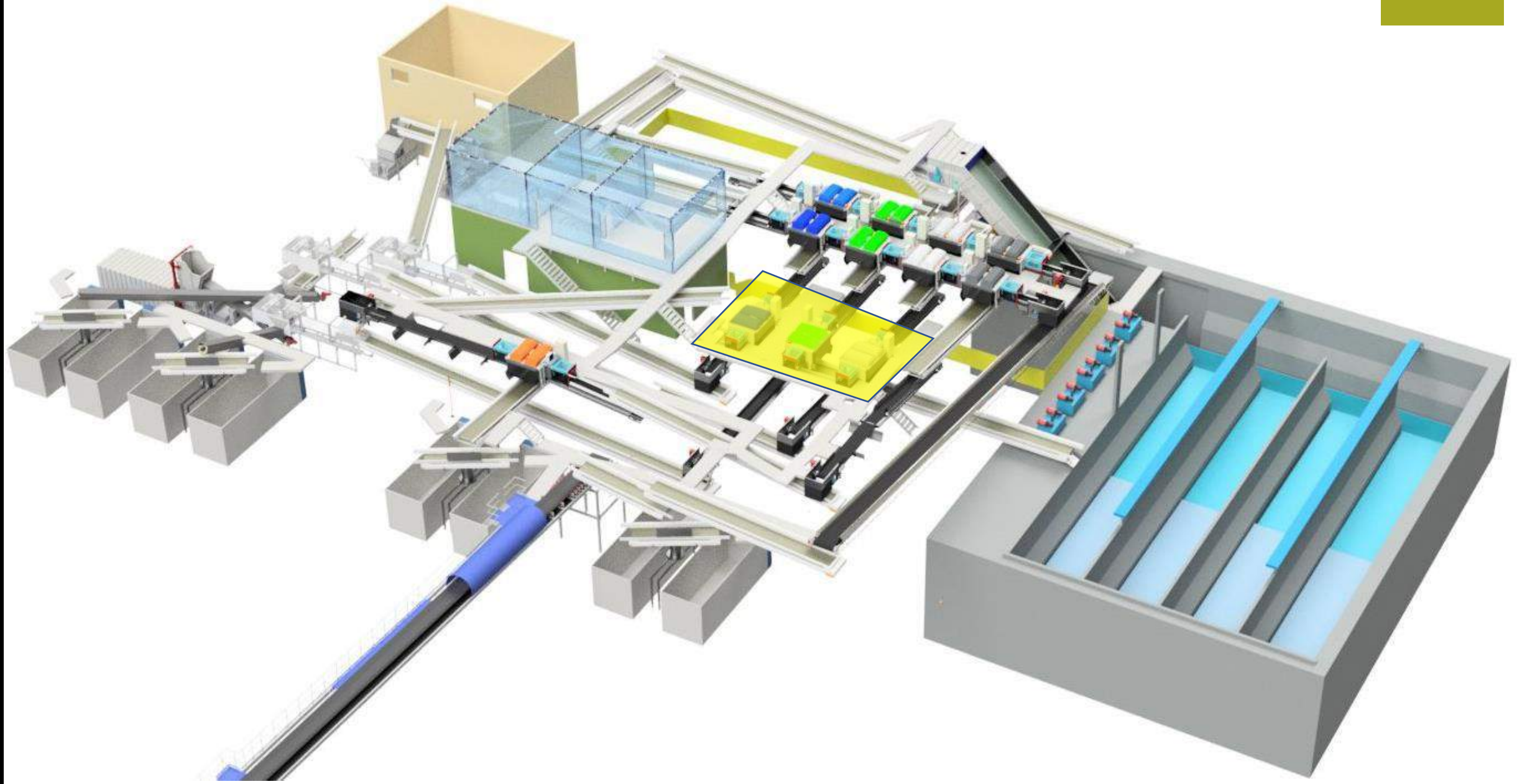
Transport Area



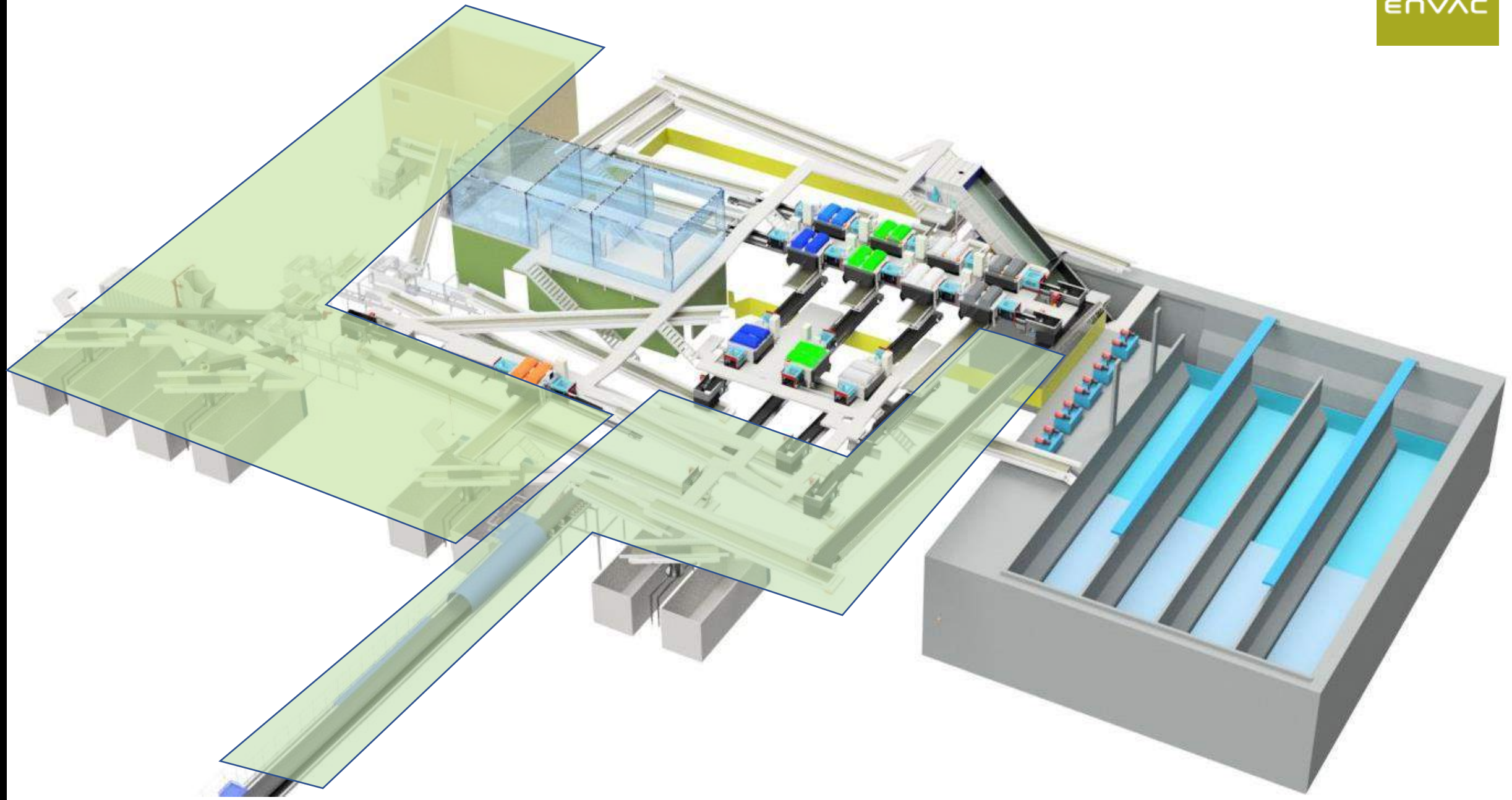
Identifying & Sorting Area



2nd Check and clean-up Area

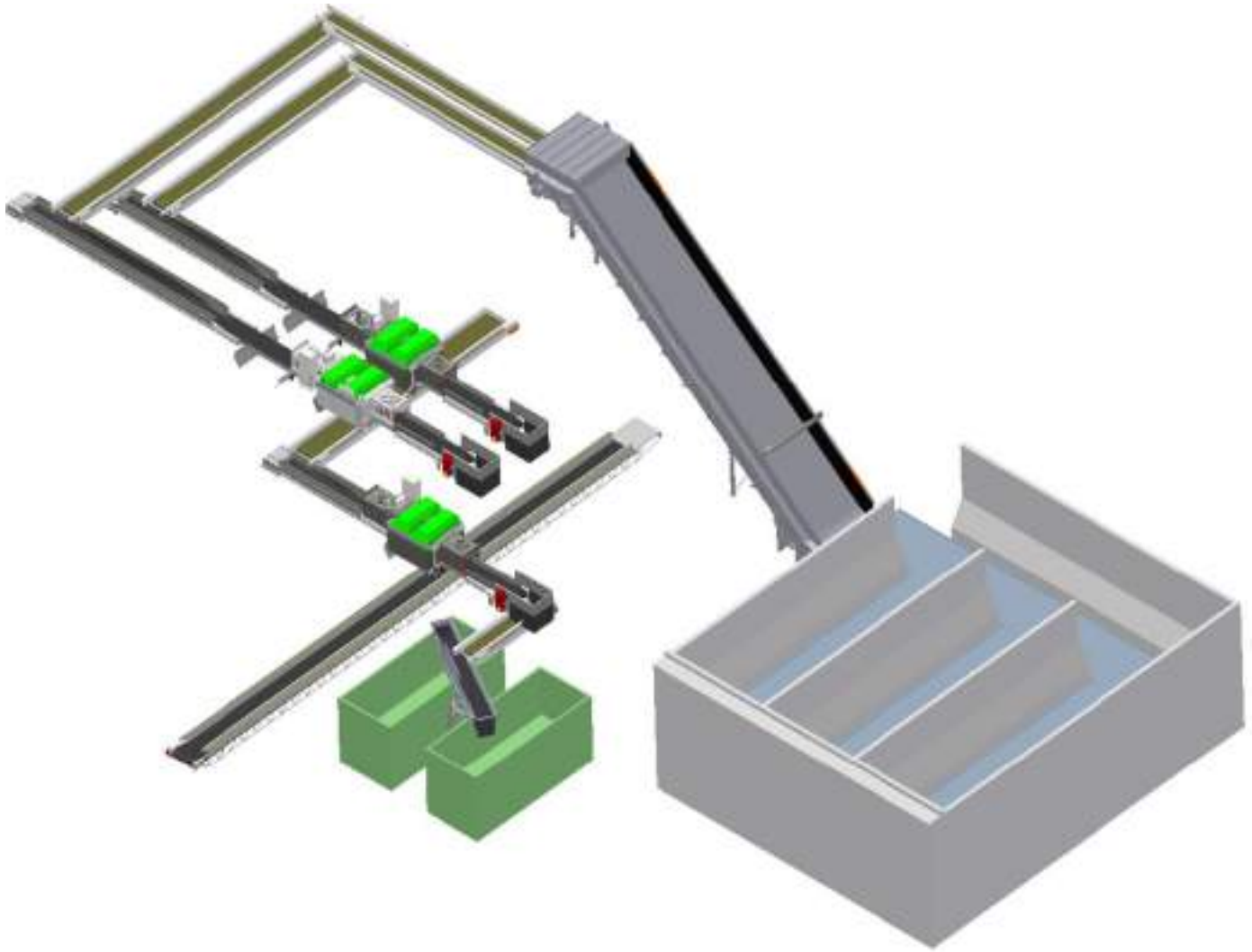


Transport of Sorted Fractions



Main components of an optical sorting plant

1. Waste reception with bunker and walking floor
2. Apron conveyor to lift the waste onto working height
3. Acceleration and sorting conveyors
4. Pusher units
5. Reception of sorted waste



Main components of an optical sorting plant

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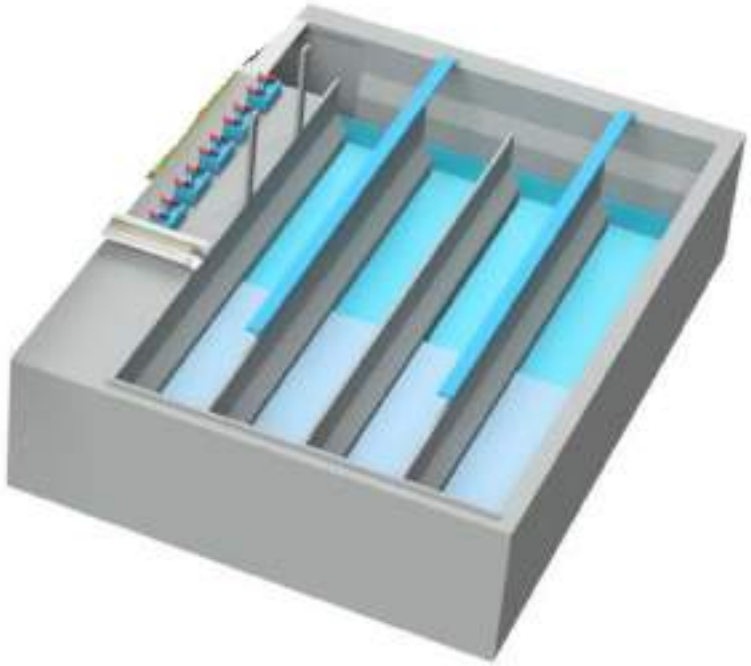

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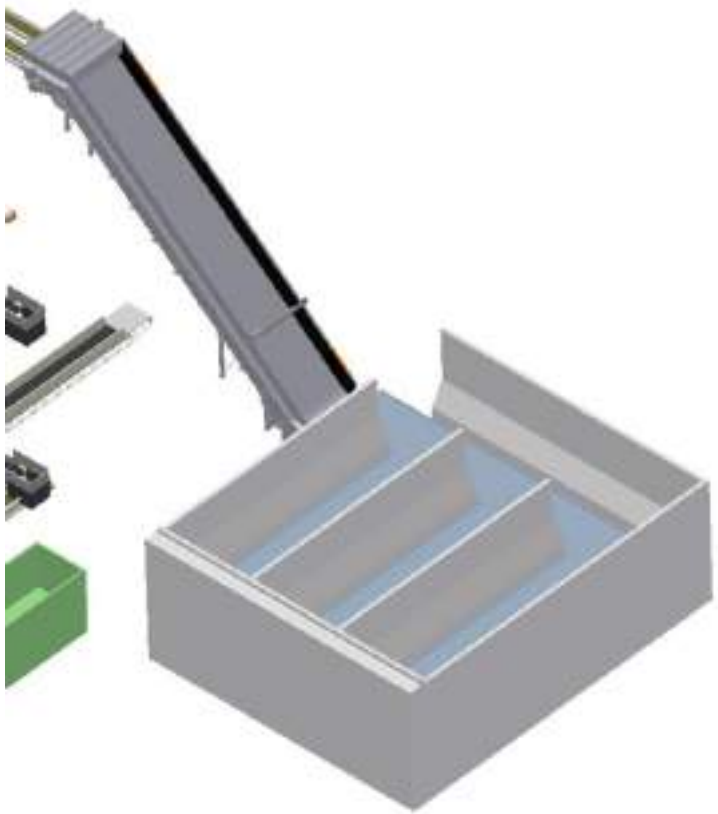
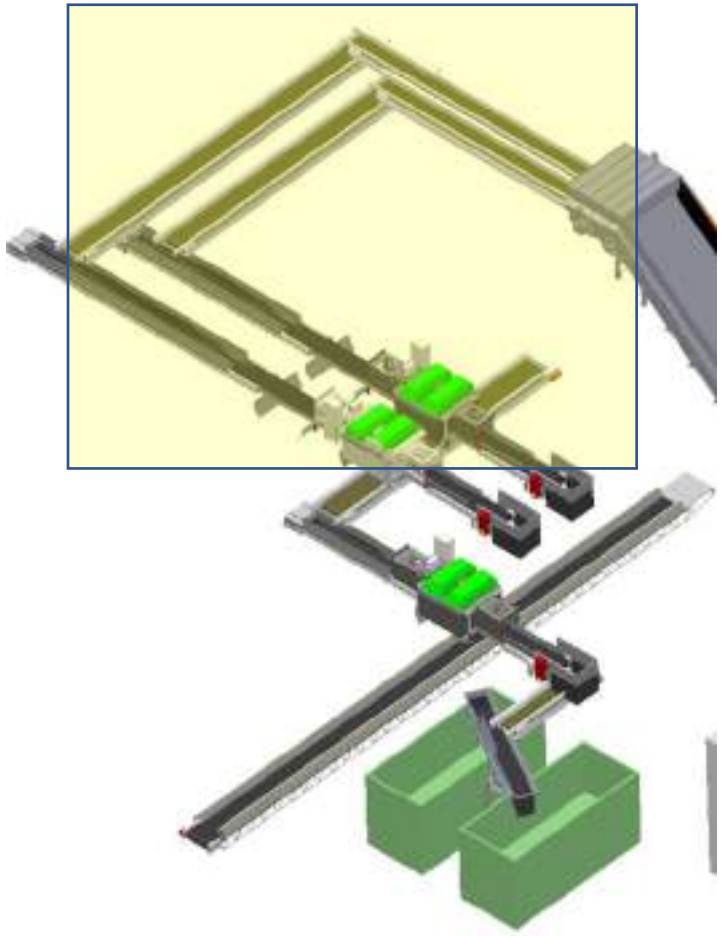
Main components:

2. Apron Conveyor lifts the waste bags 10m heigh.



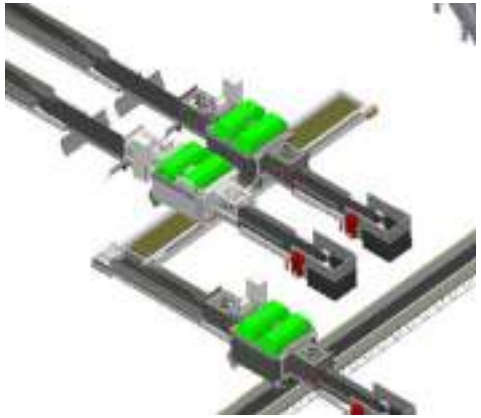
Main components of an optical sorting plant

3. Acceleration and sorting conveyors: Alignment & Isolate bags



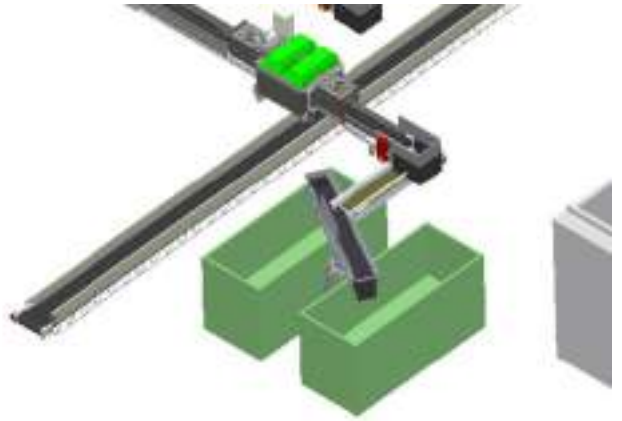
Main components of an optical sorting plant

4. Double Pusher units: Identify, select and Push with blades



Main components of an optical sorting plant

5. Transport & Reception of sorted waste



Conclusion and Future Development

By implementing presented technology you will get waste sorting plants with positive and unique ratio's in:

- ✓ Great waste sorting capacity
- ✓ The lowest energy consumption
- ✓ High reliability
- ✓ Efficient collection logistics
- ✓ High flexibility – future fractions

<u>This is not the END – R&D in progress:</u>

- ✓ PAYT
- ✓ Patterns / detection codes
- ✓ Combination of technplogies
  - ✓ Robots
  - ✓ NIR (post-sorting of rest fraction)
- ✓ Development of bag types, sizes, materials etc

A partner for future generations

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