

AIT AUSTRIAN INSTITUTE AGILOX OF TECHNOLOGY & AGILOX SERVICES

Austrian technology for kitchen and transport automation

AIT AUSTRIAN INSTITUTE OF TECHNOLOGY



Bundesministerium Klimaschutz, Umwelt, Energie, Mobilität, Innovation und Technologie



AIT Austrian Institute of Technology DI Plimon & Prof. Knoll



Nuclear Engineering Seibersdorf GmbH

1.400 EMPLOYEES 176 m EUR

Seibersdorf

Labor GmbH

TOTAL REVENUES as of YE 2021

AIT - CENTER FOR VISION, AUTOMATION & CONTROL



Assistive & Autonomous Systems Dr. Gruber



Complex Dynamical Systems Dr. Glück



High-Performance Vision Systems Dr. Clabian





AIT - CENTER RESEARCH TOPICS



Robust Multimodal Perception	Sensor Data Fusion	Localisation & Mapping	Control, Planning & Decision Making	Al & Machine Learning
 Camera Laser Radar Time of Flight Ultrasound 2D/3D Stereo / Multicamera Imaging Radar 	 Camera, Laserscanner, Imaging Radar Odometry Sensors GNSS Probabilistic methods Machine Learning 	 (Visual) SLAM Real-time camera pose estimation 3D structure of the environment Multi-modal maps Semantic spatial understanding 	 Model-based control Task and path planning Sequence optimisation and scheduling State and parameter estimation 	 Data management & analysis Prediction & learning Object detection, classification & tracking 6DoF pose estimation Learning & geometric representations

AIT – AUTONOMOUS SYSTEMS CUSTOMERS



	Hardware Suppliers	Machine Manufacturers	Technology providers	End consumer
Value Chain	 Physics-based and data- driven models for control and optimisation Control of hydraulic and electric drive systems 	 Electrification and digitalisation of the machines Automated task & trajectory planning Simultaneous localisation and mapping 	 Sensor data fusion for environment recognition Simulative verification and safety assessment Collision avoidance 	 Reduction of harmful emissions Reduce risks for humans Efficiency, resources and cost optimisation
	BOSCH	LIEBHERR	indurad	STRABAG
Customers	FESTO TITECH industrial Resch Company	PALFINGER REFORM R BOMBARDIER	TTTechAuto	COESCIPCIONE STEPAHEAD.

The company AGILOX

- AGILOX stands for the development of Autonomous Mobile Robots (AMRs)
- The company was founded in 2017
- In addition to the main location in Neukirchen bei Lambach (Austria), also represented in Atlanta (USA) and Shanghai (China)
- A total of approx. 140 employees (trend rising)
- More than 650 vehicles now in operation
- Over 100 customers in more than 20 countries



AGILOX

AGILOX - AUTONOMOUSLY OPERATING FOOD TRANSPORT



Implementation with automated mobile robots from AGILOX

- One of the world's most modern and efficient vehicles in intralogistics
- Full safety in man-machine operation and precise localisation
- Suitable for hygienically demanding environments (no hydraulics)
- Can be used on several floors (connection to building services)
- High flexibility through vehicle fleets that can be expanded as required







AGILOX - VEHICLES FOR FOOD TRANSPORT



ODM (Omnidirectional Dolly Mover)

- Compact construction and harmless design
- Suitable for confined, dynamic environments
- Fast charging cycles (3 min charging = 1 h operation)
- Load capacity up to 300 kg



ONE NFK (Narrowfork)

- Powerful transport vehicle
- For large load carriers without a central foot
- Load capacity up to 1000 kg



AGILOX - TECHNOLOGIES FOR MODERN KITCHEN LOGISTICS

- Swarm intelligence without a central control station
- Intuitive operation through web-based user interface
- Innovative drive concept for high-precision manoeuvring
- Analysis functions for fleet and process optimisation











AIT & AGILOX – INNOVATION MADE IN AUSTRIA

- Robust object recognition and environment perception
 - Understanding the scene and its relations
 - Localisation & classification of objects using geometric models and machine learning concepts
 - Various sensor modalities, fusion of sensor data
- Autonomous operation in unstructured
 environments
- Real-time handling of unexpected situations



- Established hardware platform for transport and manipulation
 - Highest safety standards for deployment in unrestricted environments
 - Suitable for hygienically demanding environments
 - Anytime vehicle expansion
- Precise mapping and localisation using modern Lidar sensor technology
- Easy-to-operate web-based user interface