ISRAEL and ITALY
COOPERATION IN HORIZON FRAMEWORK PROGRAMS
Best practices and future opportunities
ALOHA at a glance

software framework for runtime-Adaptive and secure deep Learning On Heterogeneous Architectures

• INDUSTRIAL LEADERSHIP
  – Leadership in enabling and industrial technologies
  – Information and Communication Technologies (ICT)

• Customised and low energy computing (including Low power processor technologies)
Main objective: deep learning at the edge

- Cloud DL
- Embedded IoT nodes
- at-the-edge DL
- Cloud DL

Responsiveness
Low-bandwidth
Privacy
Resilience
Main result: the ALOHA toolflow
Impact and exploitation

Dataset

Algorithm selection

Training and optimization

On-hardware deployment

Effort required to traverse the flow for one project

Manual flow: months

ALOHA: days (with minimal manual intervention)

Open source exploitation

https://gitlab.com/aloha.eu/aloha_toolflow
Commercial direct exploitation (use cases in Israel and Italy)

Voice controlled robotic arm @ST SensorTile (1.5W)
Real-time inference

Lower-glade gliomas highlighting in MRI scans
@NVIDIA Jetson NANO (10W power)
inference time 700 ms
Thank you