



# 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)**

## Project Information

### ALOHA

Grant agreement ID: 780788



### DOI

10.3030/780788 Closed project

### Start date

1 January 2018

### End date

30 June 2021

### Funded under

H2020-EU.2.1.1.

### Overall budget

€ 5 976 415

### EU contribution

€ 5 976 415



### Coordinated by

STMICROELECTRONICS SRL

 Italy



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life.augmented



UNIVERSITY OF CAGLIARI



Pluribus One  
seeing one in many



University of Sassari



UNIVERSITEIT VAN AMSTERDAM

**ETH** Zürich



Universiteit Leiden



santer





Artificial Intelligence

s c c h 

software competence center  
hagenberg

**upf.** Universitat  
Pompeu Fabra  
Barcelona



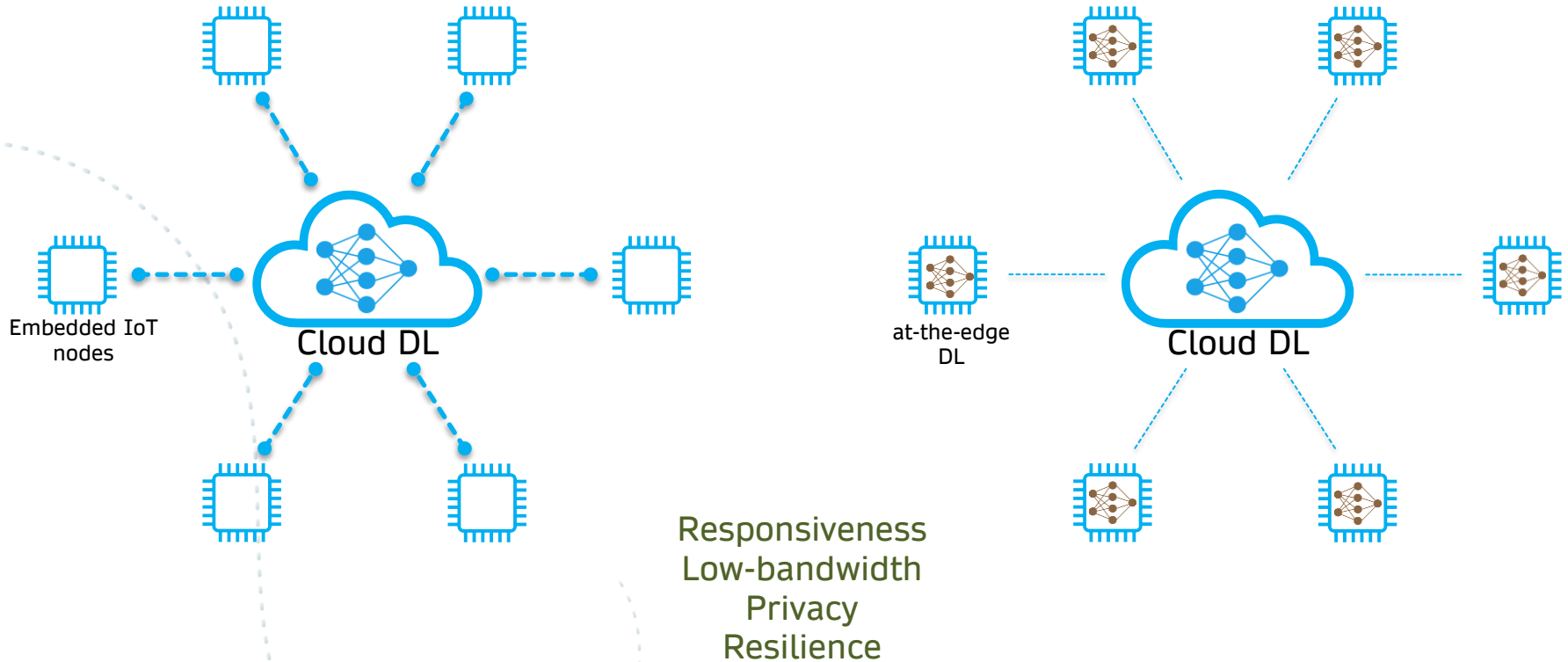
IRIDA LABS



**PKE**  
PKE Electronics AG

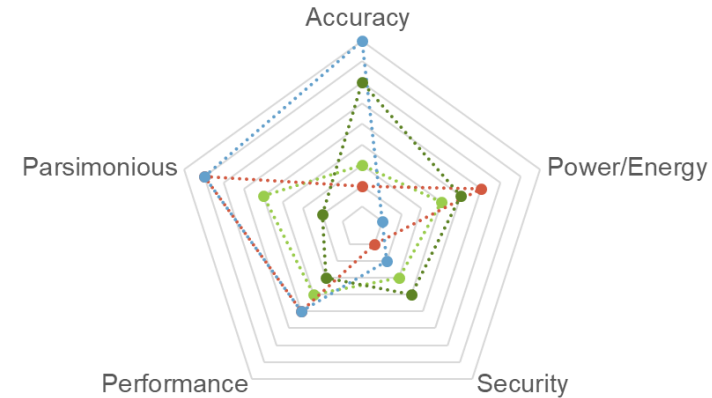
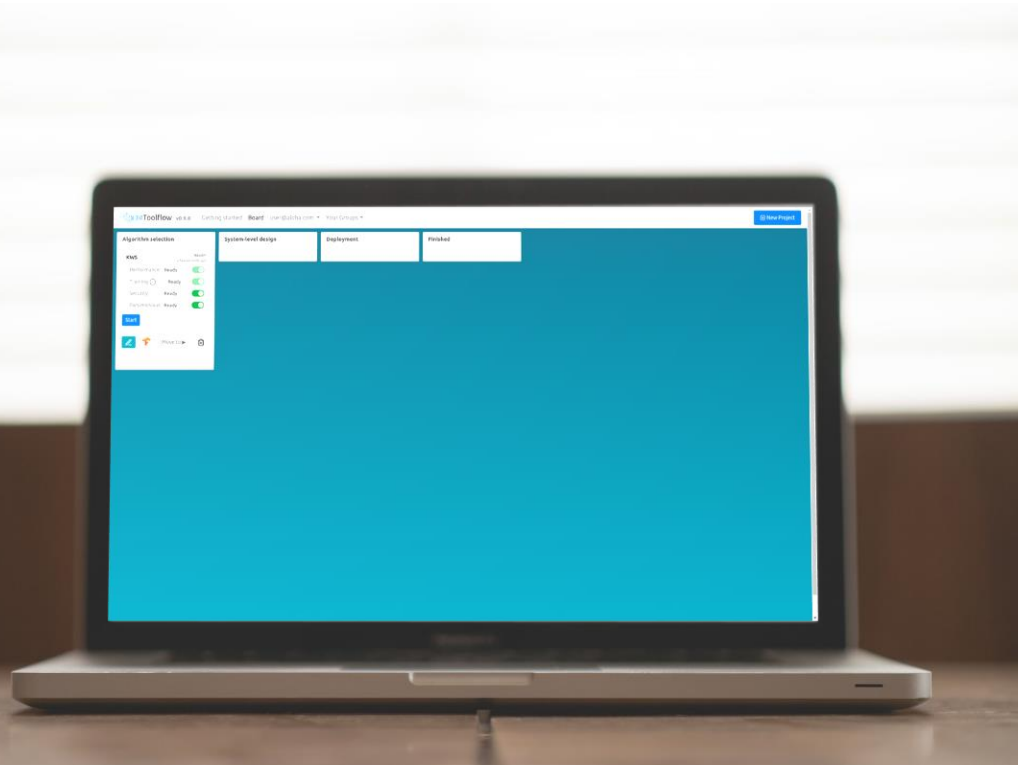


# Main objective: deep learning at the edge



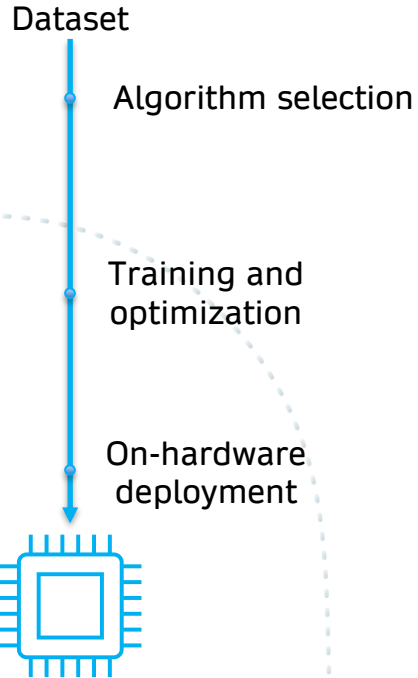


# Main result: the ALOHA toolflow





# Impact and exploitation



Effort required to traverse the flow for one project

**Manual flow:** months

**ALOHA:** days (with minimal manual intervention)

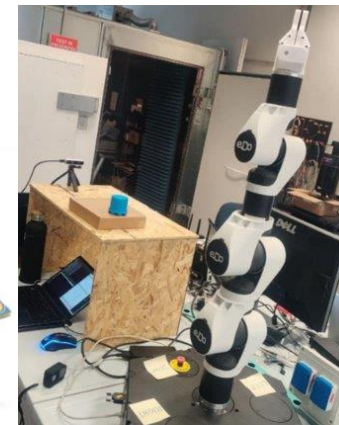
**Open source exploitation**

[https://gitlab.com/aloha.eu/aloha\\_toolflow](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-grade gliomas highlighting in MRI scans  
@NVIDIA Jetson NANO (10W power)  
inference time 700 ms



Thank you