

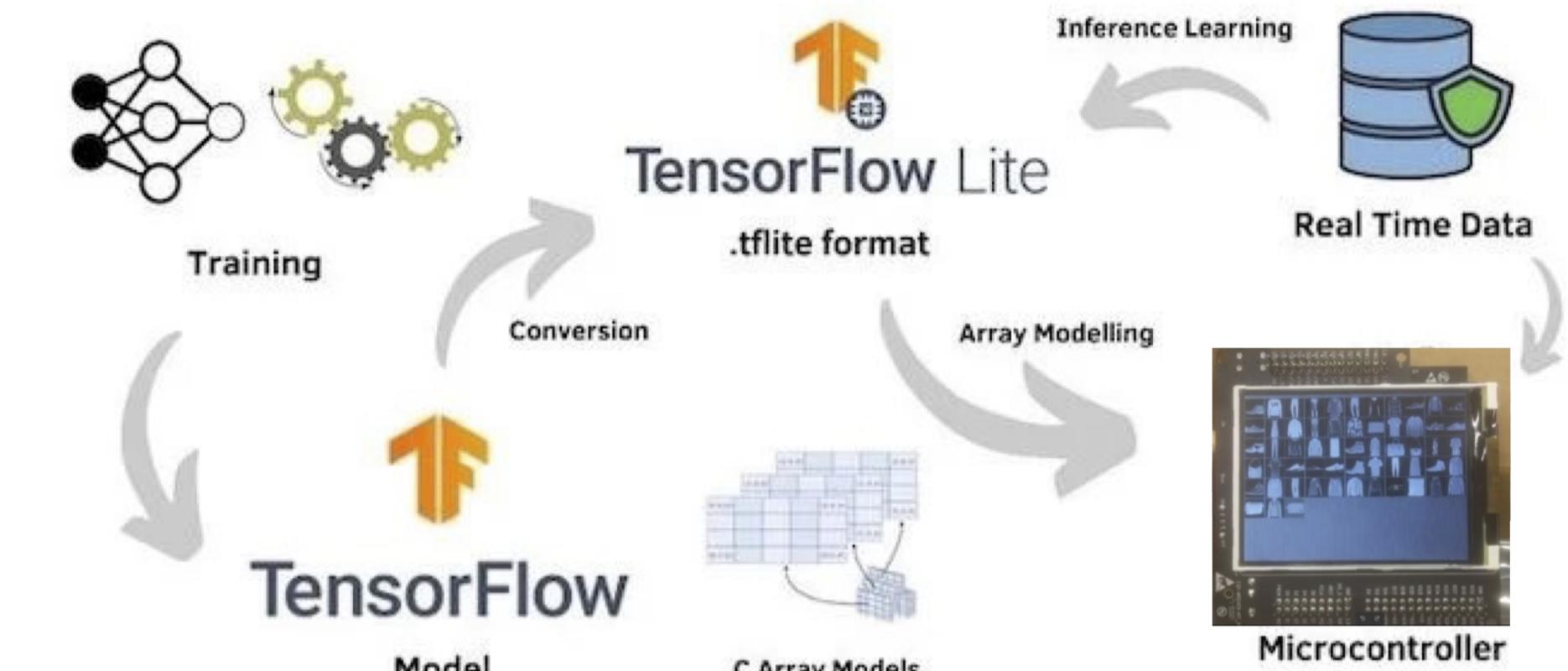
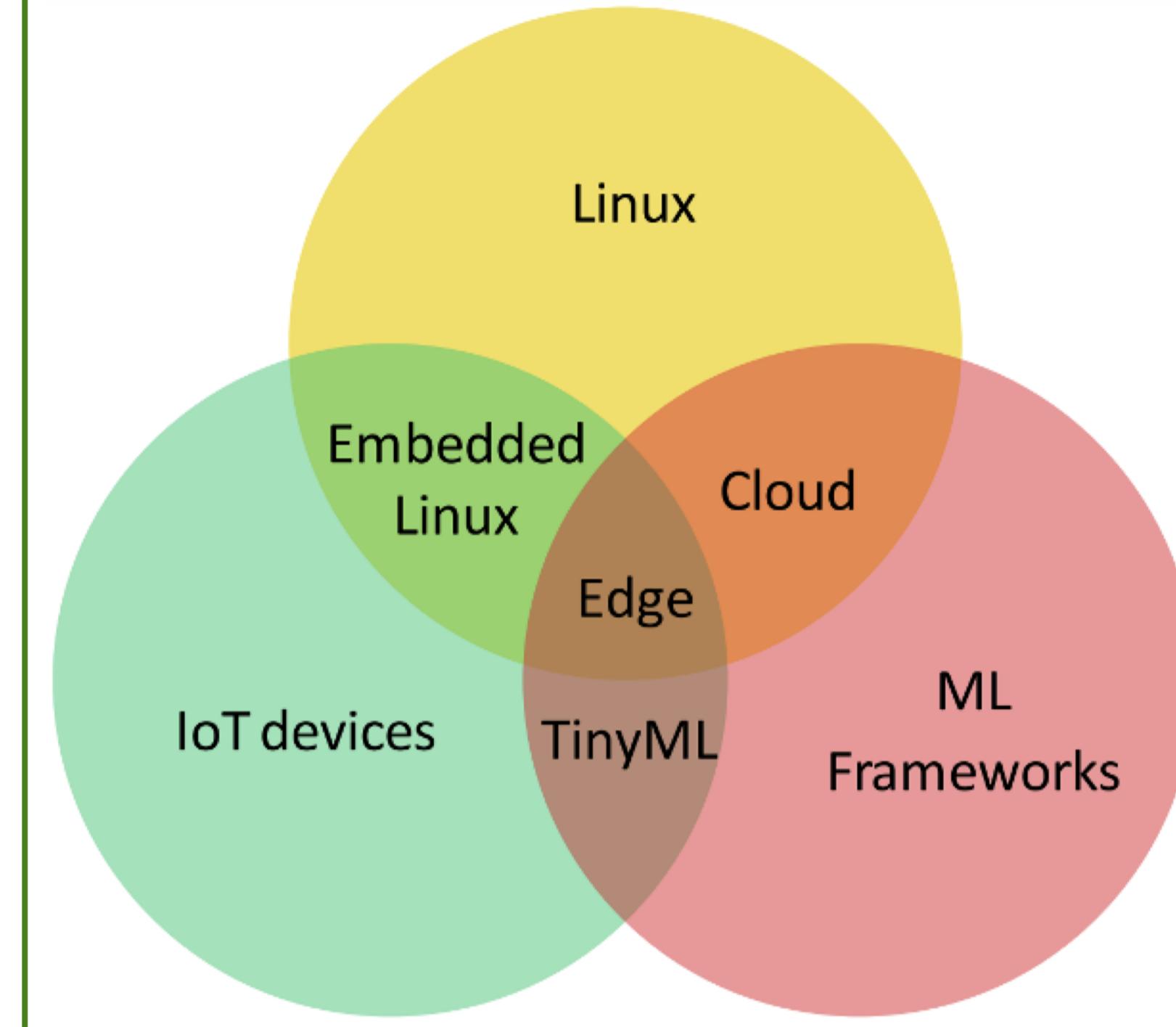
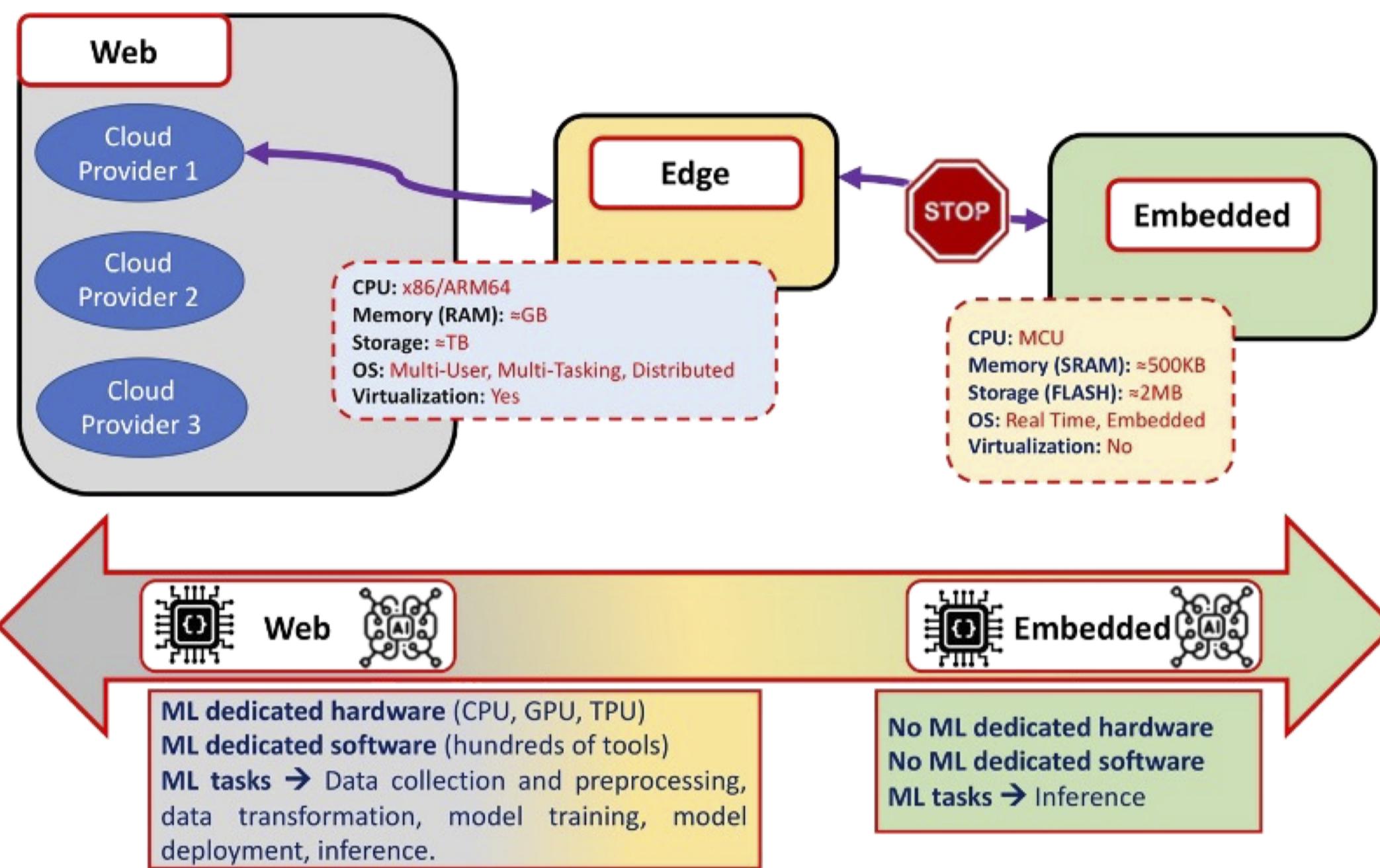


ORIGAMI

Why join the Cloud ML navy when you can be a TinyML pirate?

Hiroshi Doyu (Origami) and Roberto Morabito (University of Helsinki, Origami)

What is TinyML? Why we need it?

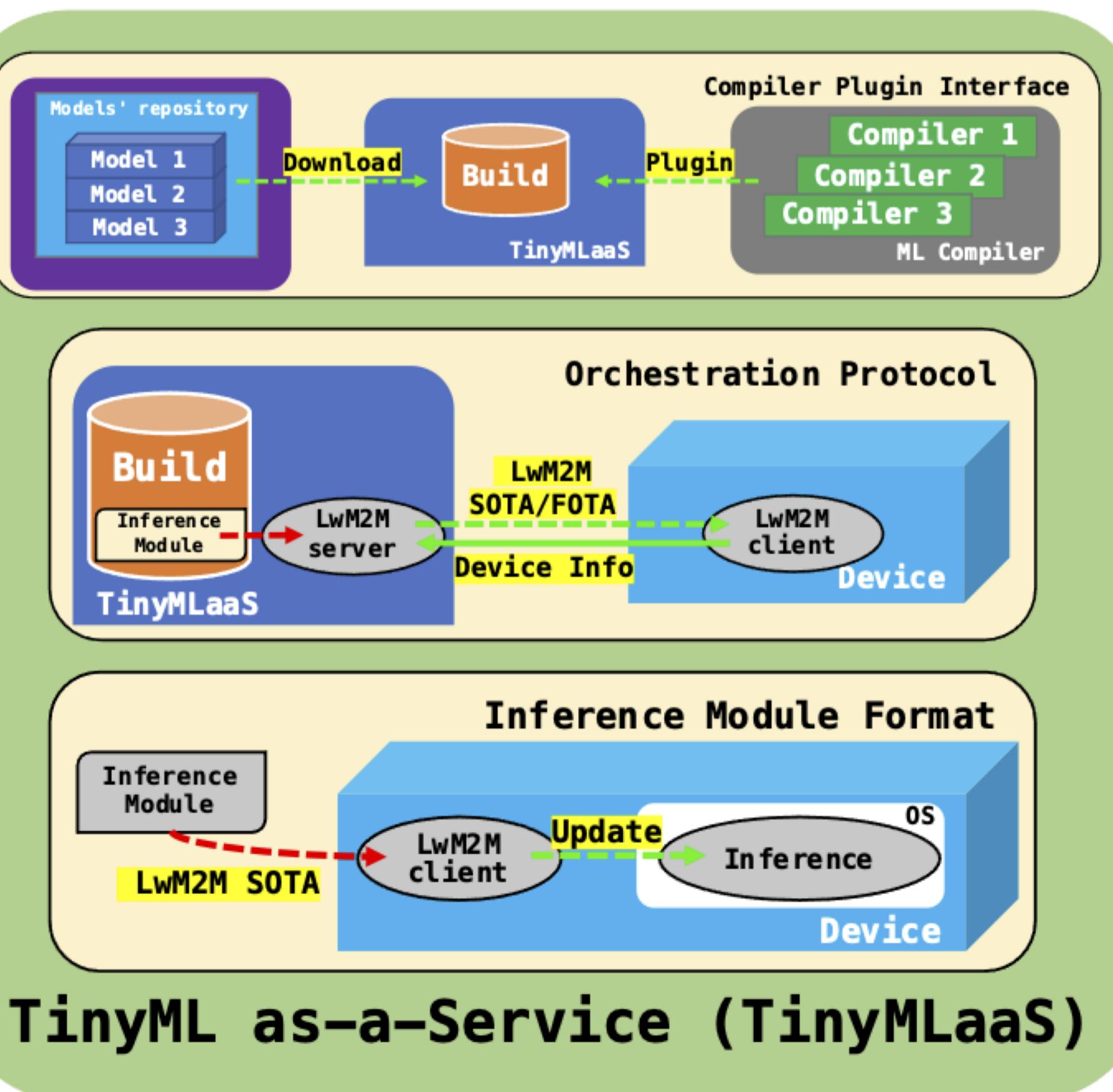


TinyML: cool and manifold benefits!

- ① Energy efficient
- ② Enables ML beyond network coverage
- ③ Privacy Preserving

But...is it enough?

TinyML as-a-Service: three “interfaces” for democratizing TinyML



Compiler Plugin Interface

Middleware abstraction bridging the requests submitted to the TinyMLaaS front-end with the compiling parameters requested by the back-end

Orchestration Protocol

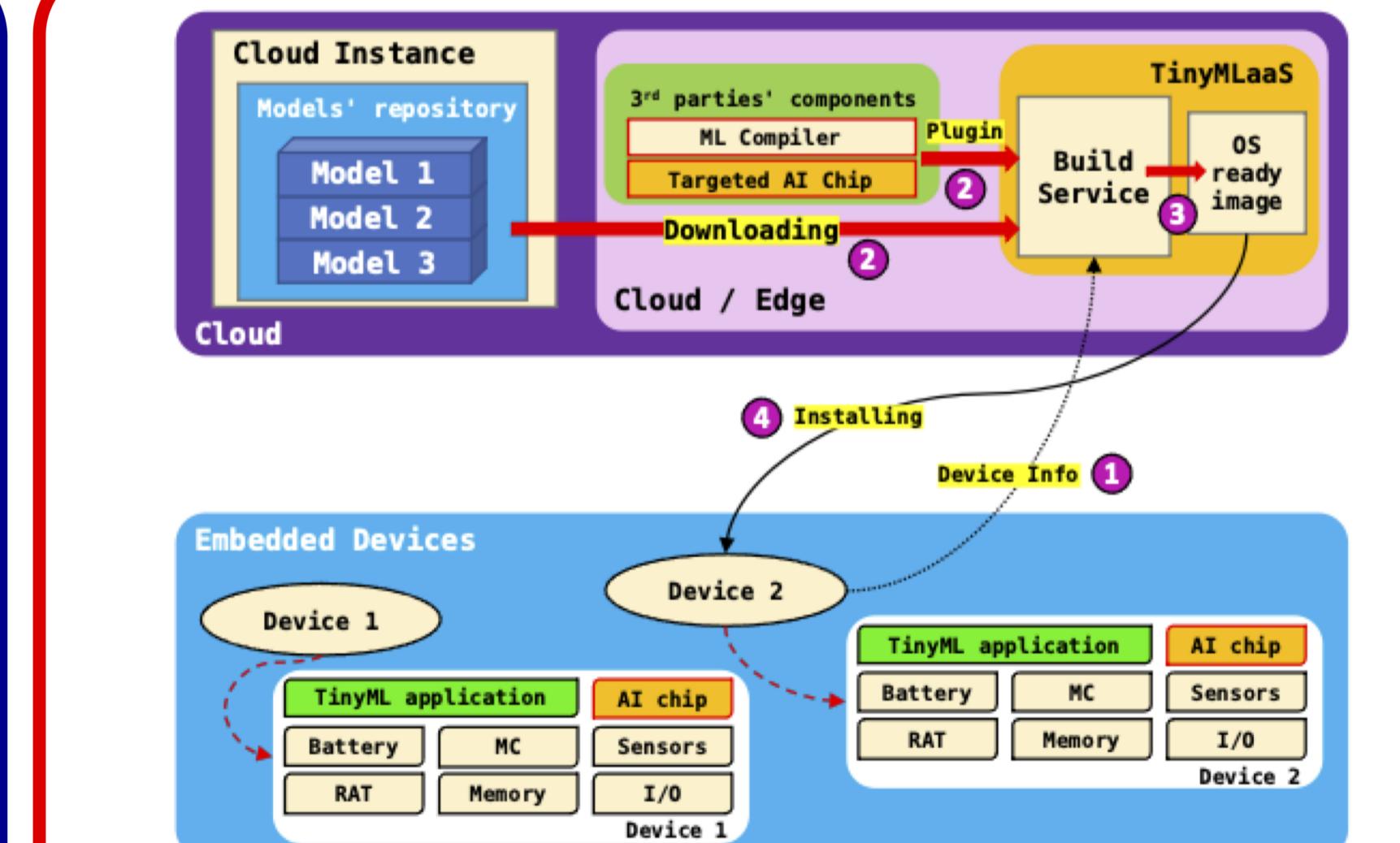
Through OMA Lightweight M2M (LwM2M) and standardized data representation models, it manages the interactions between devices and the TinyMLaaS infrastructure (ex. Software/Firmware Over-The-Air – SOTA/FOTA)

Inference Module Format

Provides the output processed by ML compilers via LwM2M SOTA to devices

	Device and ML service management capabilities	Orchestration and ML lifecycle capabilities	Connectivity management Capabilities	Network latency dependency
Cloud ML	Yes	Yes	No	High
TinyML	No	No	No	Low
TinyMLaaS	Yes	Yes	Yes	Low

TinyMLaaS in Action



Watch our Demo



Read our White Paper