



Technologies for our future

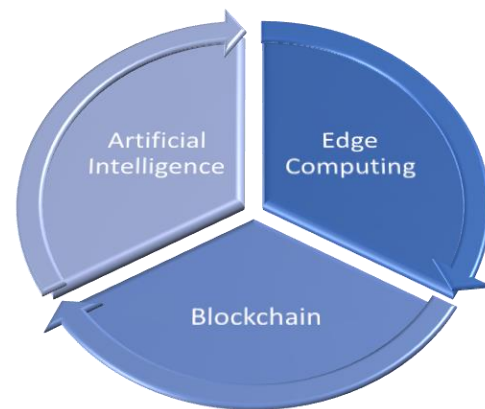
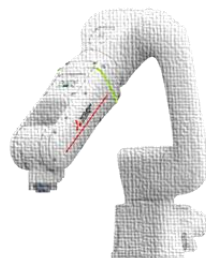


Le nuove frontiere dell'Edge Computing e dell'intelligenza artificiale applicate ai Robot

Simone Farruggio



Robot As Intelligent Services Ecosystem



Robot e sensori

Edge Computing

Cloud Computing – Modello IA

Sistema SCADA



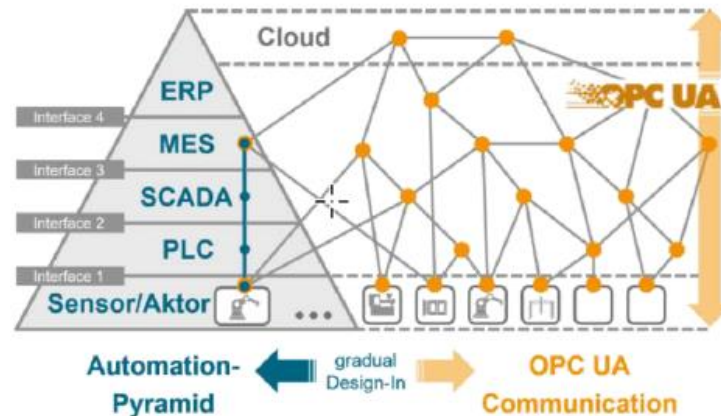
Modelli standardizzati da apparecchiature industriali

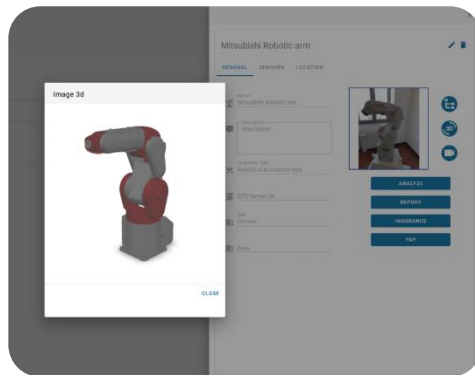
Gestione della sicurezza: token, crittografia

Semplice condivisione dati con livelli
SCADA, MES ed ERP

Timestamp

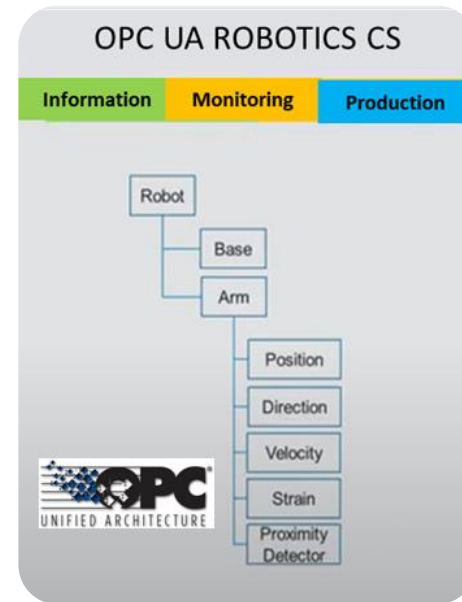
Apertura a differenti protocolli:
TCP/IP, UDP/IP, WebSocket, AMQP e MQTT

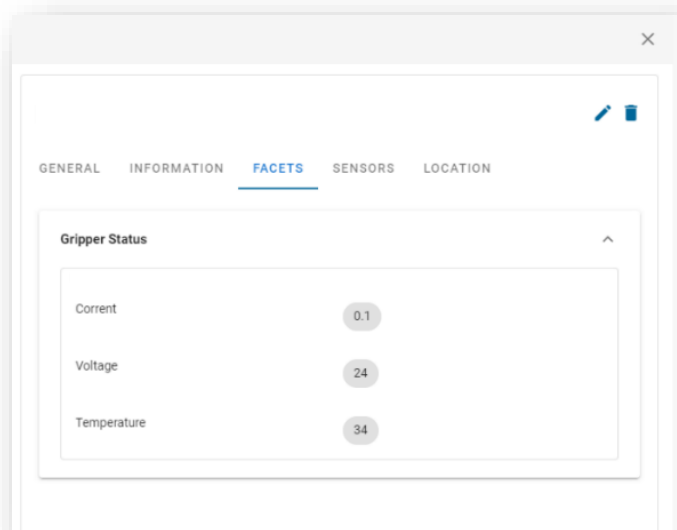




Information Model secondo specifiche **UMATI**

Digital twin che espone le principali variabili di sistema

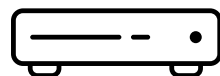




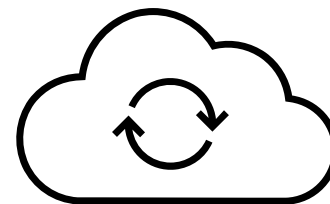
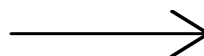
ESOSensori



Bluetooth
→



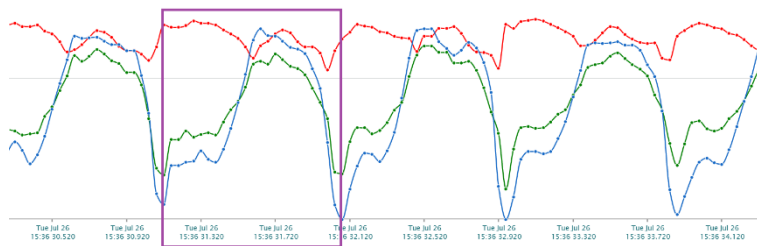
Edge
computer

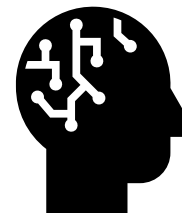
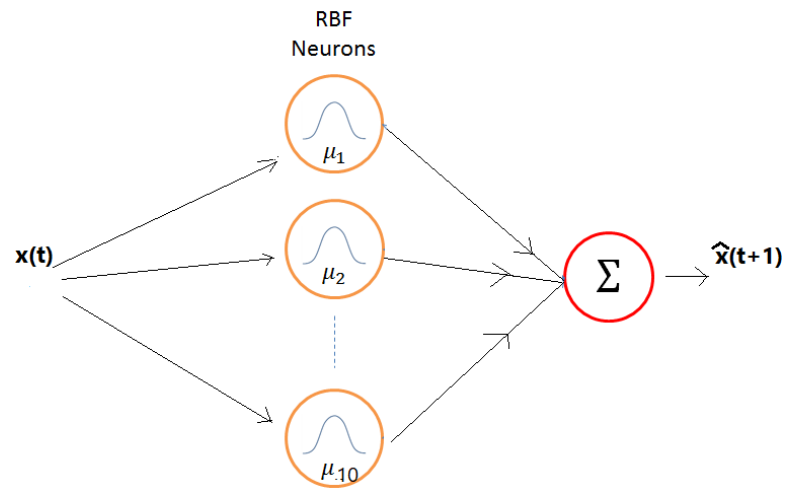


Modello AI in
Cloud

I dati delle accelerazioni vengono campionati

Utilizzati per addestrare il modello di IA

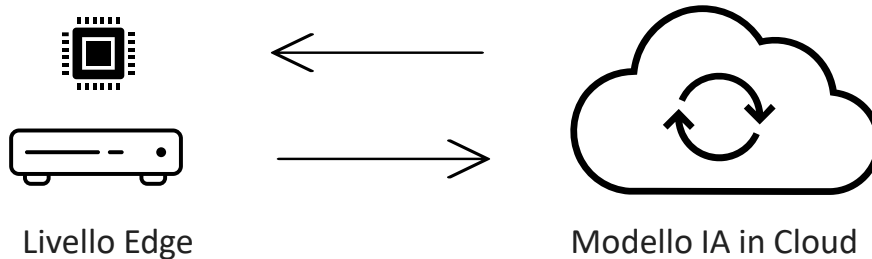


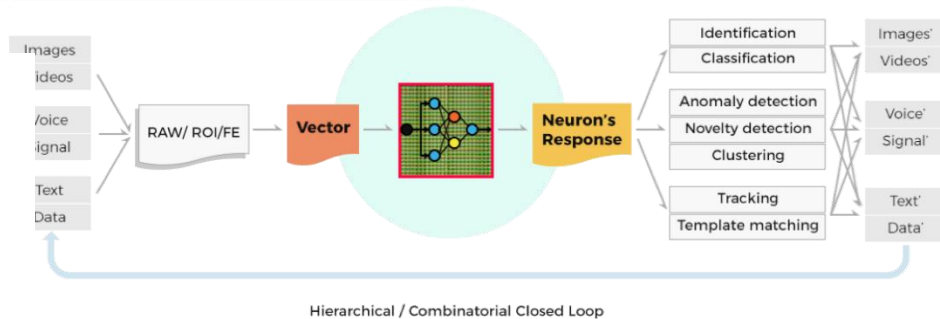
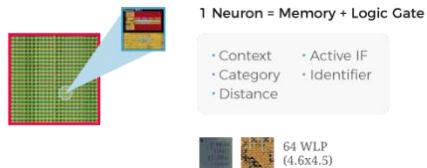


Modello IA addestrato in Cloud

Intelligenza su Edge Computing

Scheda hardware neurale



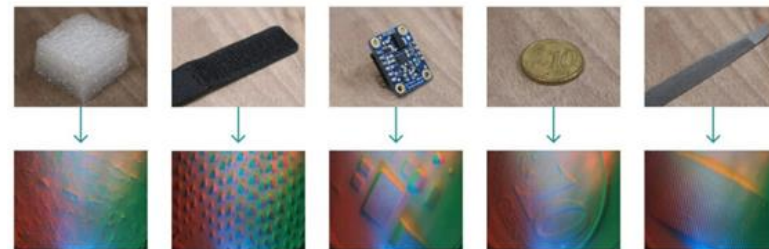


Struttura modulare

Algoritmi Touch Intelligence

Riconoscimento difetti di superficie

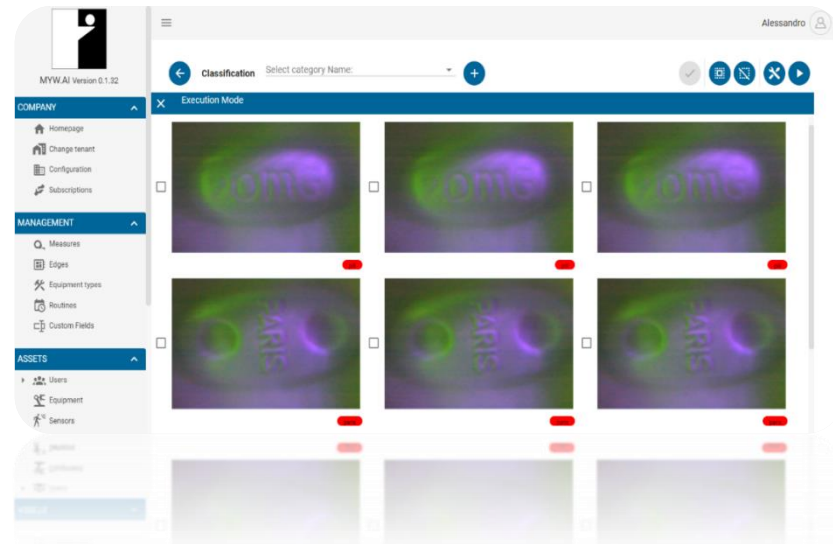
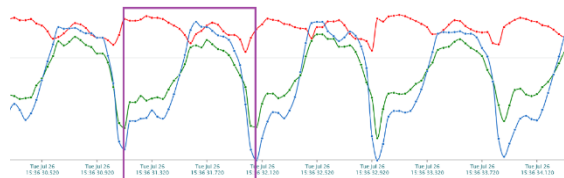
Ambito tessile, farmaceutico e
meccanica di precisione



Manutenzione predittiva

Monitoraggio del processo in tempo reale

Controllo automatico della qualità



Immutabilità

Tracciabilità dei trasferimenti

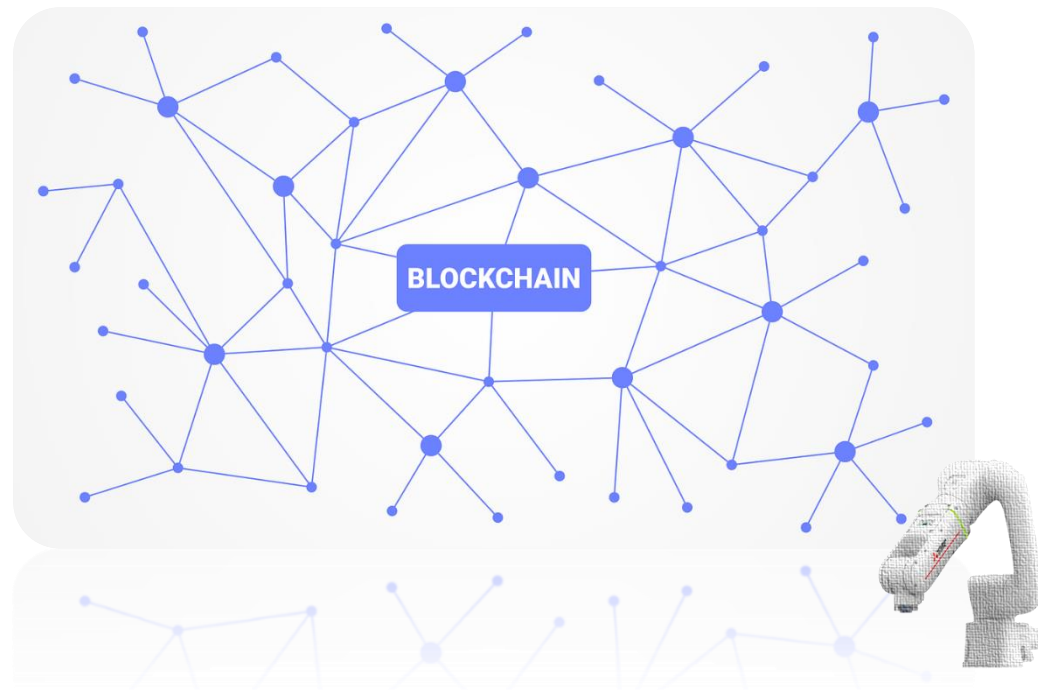
Decentralizzazione

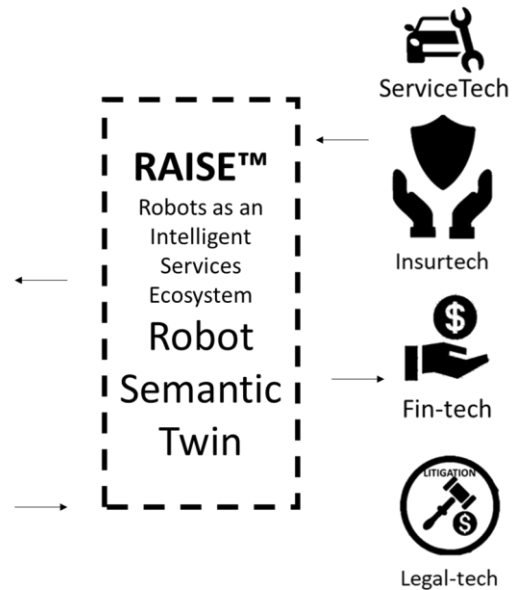
Unicità dell'entità digitale

Accessi sicuri



SMART CONTRACT





Metaverso Industriale

Standardizzazione

Interoperabilità

Robot as a Service

Logistica & Formazione





Technologies for our future



GRAZIE PER L'ATTENZIONE!