

Projekt SPIRIT

A software framework for the efficient setup of industrial inspection robots

SPIRIT
— INSPECTION ROBOTS —>

 **PROFACTOR**[®] **INFRA**Tec. **IT+Robotics** voestalpine
ONE STEP AHEAD.



UNIVERSITÀ
DEGLI STUDI
DI PADOVA

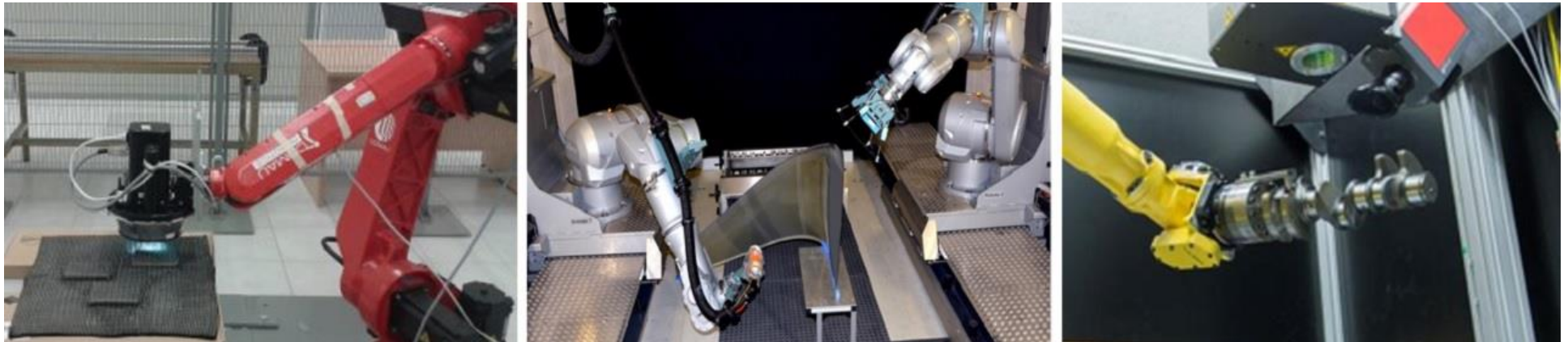


CENTRO
RICERCHE
FIAT

Projekt SPIRIT - Objectives

Take the step
from programming of robotic inspection tasks
to configuring such tasks

- full surface coverage of complex parts
- image based inspection (Vision, X-Ray, Thermography)
- continuous scanning processes



Projekt SPIRIT - Approach

Offline software framework including

- Model of the inspection process
- Model-based offline path planning
- 3D simulation for collision detection

Inline software framework including

- Automatic, reactive adjustment of inspection paths
- Accurate back-projection of 2D image data
- High-precision texture mapping on the 3D part

Projekt SPIRIT - Impact

- Reduce the engineering costs for deployment of inspection robots by 80%
- Allow very quick change between products and/or inspection technologies
- Enable new robotic applications based on a robust and proven framework

