Status update project idea

*DigitalSiteTwin*

Prof. Dr.-Ing. Christian Schlette
SDU Robotics, Maersk Mc-Kinney Moller Institute
University of Southern Denmark

Target of your pitch:
- Participation in EUREKA Advanced Material and Green Transition Call, deadline 30. June 2020
- Participation in EUREKA ITEA Project Outline (PO) Preparations Days in Helsinki 8. to 9. Sept 2020
Project idea description

Problem statement
• Both, shipyard and construction site operations, are highly dependent on manual labour, with lots of potential to introduce means of robotics and automation
  • to support workers in dull, dangerous and dirty tasks with robots
  • to improve workplaces with human-robot collaboration
  • to reduce material and waste reduction with more precise operations

State of the art
• Applying today’s human-robot collaboration solutions is not possible yet
  • as typical “cobots” are often too weak for heavy tasks
  • as shipyards and construction sites are unstructured, mixed indoor/outdoor environments
Objectives in DigitalSiteTwin:
• design and develop digital twins of heavy duty robots
• design and develop digital twins of complex shipyards and construction sites
• based on digital twins, make it easy to design, commission and operate heavy duty robots
• based on digital twins, collect sensor data
  • of the product (ship/building)
  • of the production system (heavy duty robot and tools)
  • of the production environment (shipyard/construction site)
  • of the production processes (handling, assembling, pouring, grinding, …)
• interpret the sensor data in the digital twin to allow for safe human-robot collaboration
  similar to what is today possible with “cobots”
About the digital twin
Partners & expertise

Partners involved
SDU Robotics / Denmark

Missing partners / expertise
Advanced shipyard operators / Korea
Advanced construction companies / Korea
Applied robotics research institutes / Korea
Contact details

Christian Schlette
SDU Robotics / MMMI / SDU

chs@mmmi.sdu.dk
+45 9350 7377

https://www.sdu.dk/en/om_sdu/institutter_centre/sdurobotics