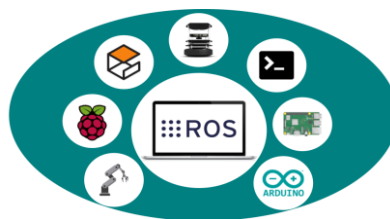


Challenges for components integration:

Points for attention



Carlos Neves - cneves@idmind.pt

1

Short Intro



Carlos Neves, 36yo from Portugal



Masters in Electrotechnical Engineering from IST, Lisbon

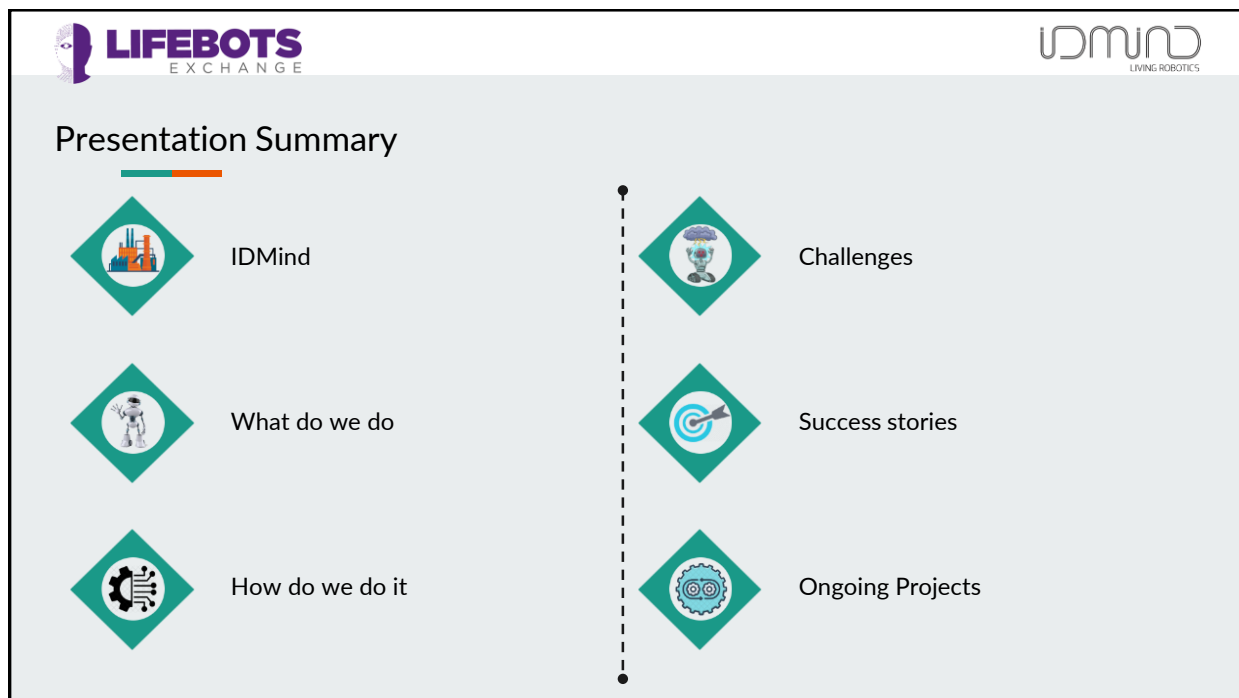


Software Developer at IDMind since 2017





DT1 since 1996, with strong interest in new technologies and community-driven solutions

2



3






ID Mind

What we do?


Robots for:

Remote Inspection



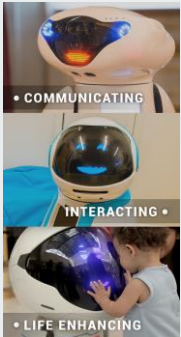
- SMART MONITORING
- SAVING RESOURCES
- REDUCING RISKS

Logistics/Services



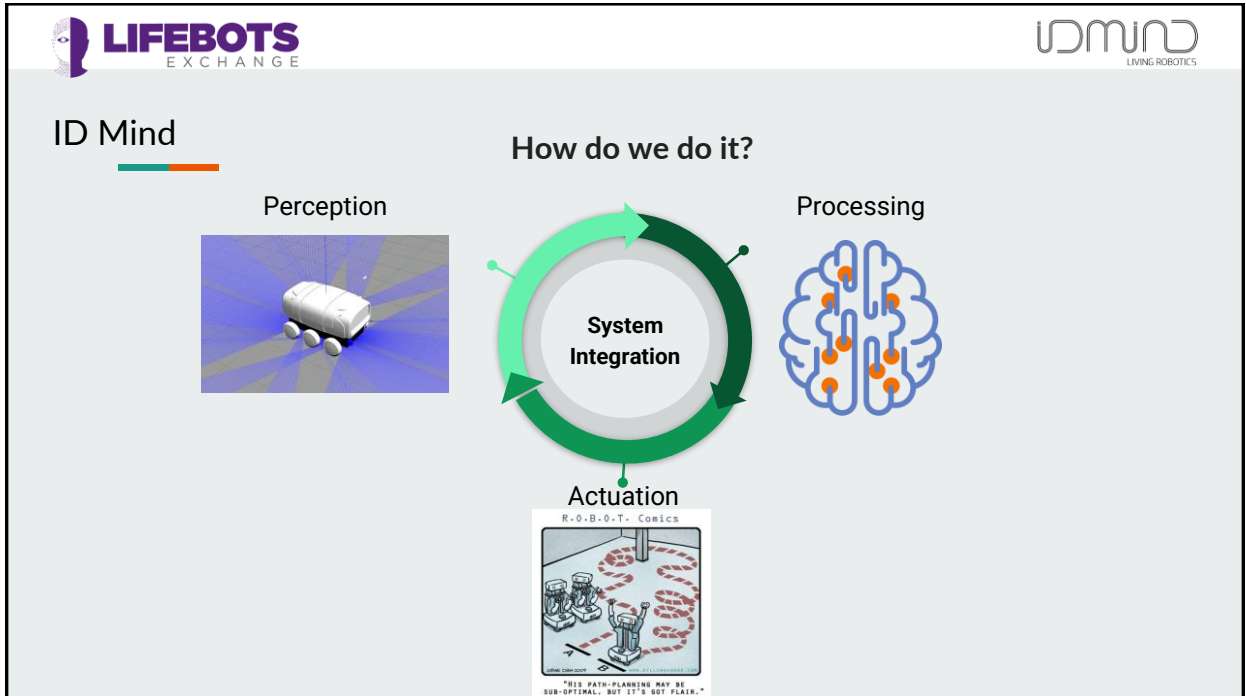
- COWORKING
- GUIDING
- DELIVERING

Edutainment





- COMMUNICATING
- INTERACTING
- LIFE ENHANCING

4




5






Integration




What is system integration?

- Mechanical Systems
- Electrical Systems
- Software Modules



What about environment integration?

- People
- Permanent obstacles (Doors, elevators, stairs...)
- Temporary obstacles (maintenance material, boxes...)



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Development Challenges

System Design

- 1) Define appropriate goals
- 2) Select processing platform
- 3) Pick the required sensors and actuators
- 4) Choose OS/middleware



System Safety

- 1) Project with suitable size and weight
- 2) Pick sensors to enforce safety
- 3) Limit velocities according to environment



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Deployment Challenges

Environment Challenges

- 1) Indoor/Outdoor
- 2) Plain/rugged terrain
- 3) Manual/Automated Doors
- 4) Elevator controllers



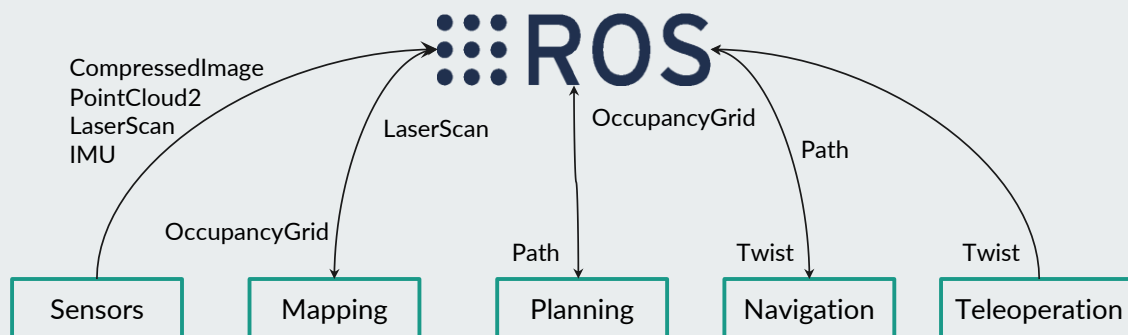
Social Challenges

- 1) Staff Acceptance
- 2) Public Acceptance
- 3) GDPR and data collection
- 4) Medical data acquisition and storage



8

Common Ground - Robot Operating System



9

Success Stories



<http://www.squirrel-project.eu/>



<https://cordis.europa.eu/project/id/601033>



10

Success Stories

Loop



<https://de-enigma.eu/>



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On Going Projects



Harmony

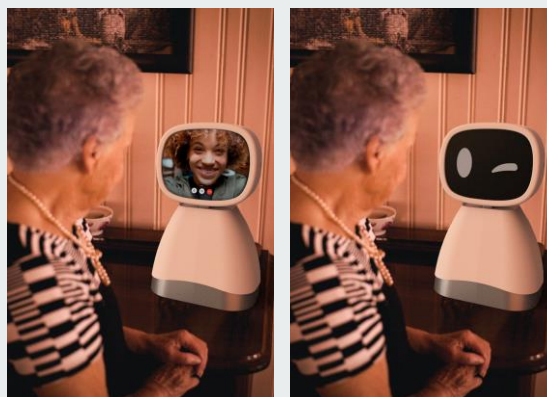
Assistive robots for healthcare

<https://harmony-eu.org/>



<https://www.idmind.pt/rovid/>

elmo



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Questions/Contacts



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