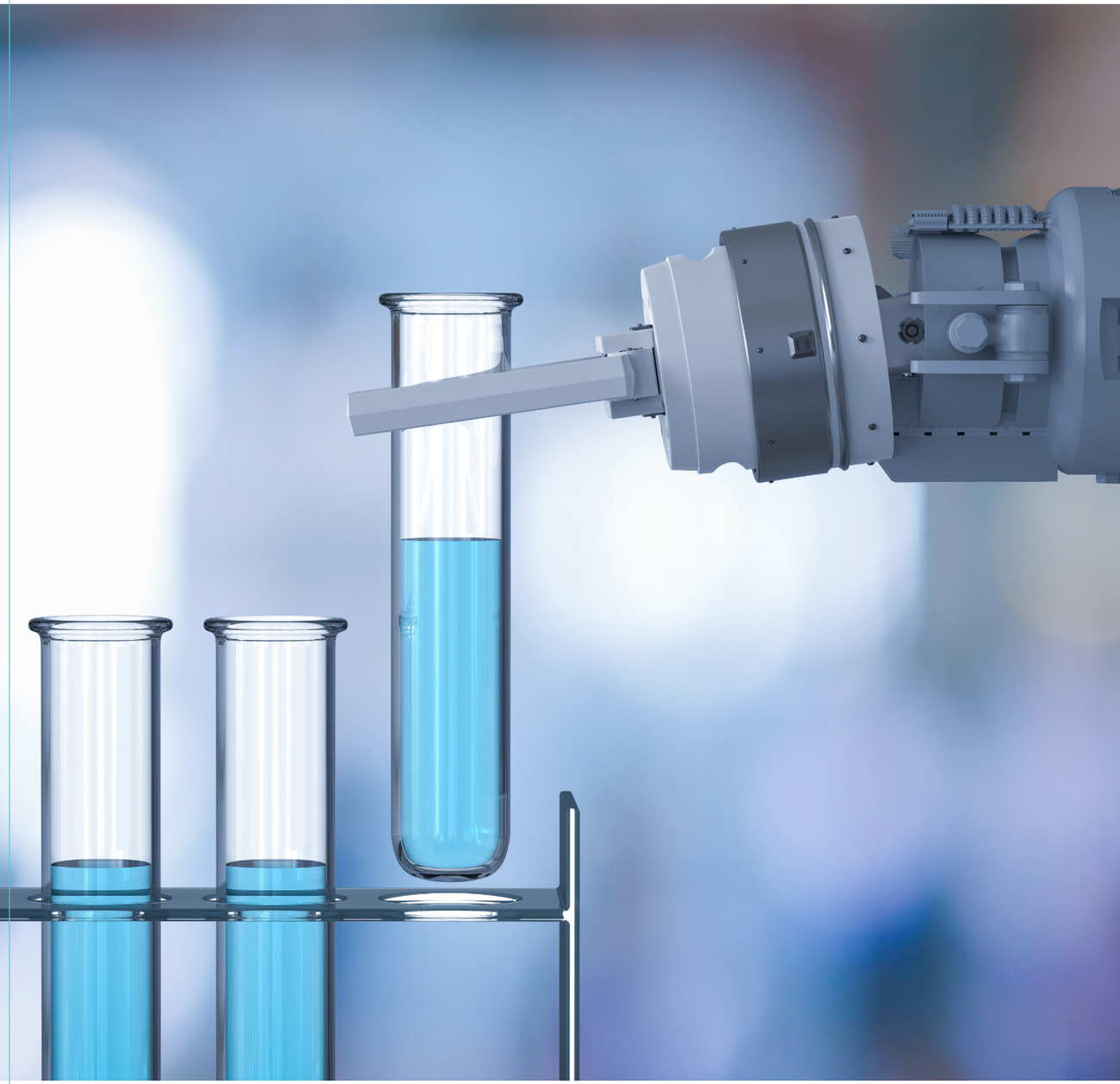
info@tracebot.eu
www.tracebot.eu

LinkedIn.com → tracebot

YouTube → tracebot

www

tracebot.eu



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2021 – 2025

Icons by: Andy Horvath, Those Icons, Freepik - Flaticona

TRACEBOT

TraceBot – Traceable Robotic Handling of Sterile Medical Products

TraceBot – Traceable Robotic Handling of Sterile Liquid Medical Products

Today manual procedures still dominate when it comes to creating and testing new healthcare products. This is because regulations require certainty in the execution of each process step and systematic checking to verify task completion, known as traceability. A particular challenge in this field is the handling of sterile medical products. Lab automation with dexterous and reasoning robots is the solution.

The EU funded TraceBot project, which is carried out by a consortium of seven project partners (please see right page) from five countries aims at addressing healthcare-related processes and more exactly the membrane-based sterility testing process. The objective of TraceBot is to bring verifiable actions to robot manipulation by reasoning over sensor-actor trails in a traceability framework based on digital-twin technology and extend current robot motion planners with the automatic execution of self-checking procedures that create a semantic trace of the actions performed.

The goal is to create robotic systems able to understand what they perceive and do in order to ensure that any manipulation action is verified, thus meeting the needs of the regulated environment.

This cooperation will permit the development of tactile grippers for handling medical products, the design of a set of manipulation skills to execute the regulatory checking actions for every assembly step, the generation of an intuitive programming method for a quick adaptation to new products and tasks and, last but not least, the development of a reasoning framework to monitor and control the safe and failure-resistant operation of the robot system in order to meet the need of safety-critical automation. The project's administration, coordination, communication and dissemination is carried out by the health network BioLAGO (Germany).

Duration: January 2021 till March 2025.

Advisory Board – scope and purpose

The Advisory Board has a vital function for the TraceBot project. It comprises external experts coming from industries with strong focus on pharmaceutical production, lab automation and robotics including artificial intelligence. In view of a future potential of the TraceBot, the experts bring a user-focused perspective. Chair of the TraceBot Advisory Board is Dr. Patrick Courtney (tec-connection), a renowned expert in the field of laboratory automation with excellent international contacts in the above mentioned industries.

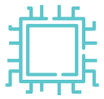
Advisory Board meetings are being held on a regular base and in accordance with the delivery of new development steps in order to seek feedback and advice. Invitations are sent out in conjunction with internal project meetings. The meetings ensure that the TraceBot vision remains aligned with the needs and constraints of the relevant market actors and to provide operational and strategic suggestions to the project in order to improve such alignment.

The board membership includes representation across the value chain from suppliers of products and services to users including research and regulation for all kind of medicinal products from drugs, vaccines, diagnostics, emerging therapies and blood products.

To find out more about the Advisory Board and to join it as a member, please visit our project website or contact us directly via our email address:
→ www.tracebot.eu
→ info@tracebot.eu

Traceability framework based on digital-twin technolgy

Tactile Grippers essential for handling of sterile liquids



Intuitive programming method adapts quickly to new products

Sensors recognize and handle transparent vials with liquids

The TraceBot consortium: Six experts in Robotics from five countries bundle European know-how for optimized lab automation

Astech Projects
→ www.astechprojects.co.uk

CEA
→ www.cea.fr

FUNDACIÓN TECNALIA RESEARCH & INNOVATION
→ www.tecnalia.com

INVITE GmbH
→ www.invite-research.com

TU Wien – AUTOMATION AND CONTROL INSTITUTE (ACIN)
→ www.acin.tuwien.ac.at

UNIVERSITY OF BREMEN – INSTITUTE FOR ARTIFICIAL INTELLIGENCE
→ www.cs.uni-bremen.de

Administration, Coordination & Dissemination

BioLAGO – the health network
→ www.biolago.org

Milestones of the TraceBot project:

2021 Software architechture validated.
2022 First manipulation with real robotic system.
2023 Bi-manual manipulation including a dexterous gripper.
2024 Complete prototype with all traceability and reasoning skills.