

Intelligent Automation System in Autonomous Chemistry Lab

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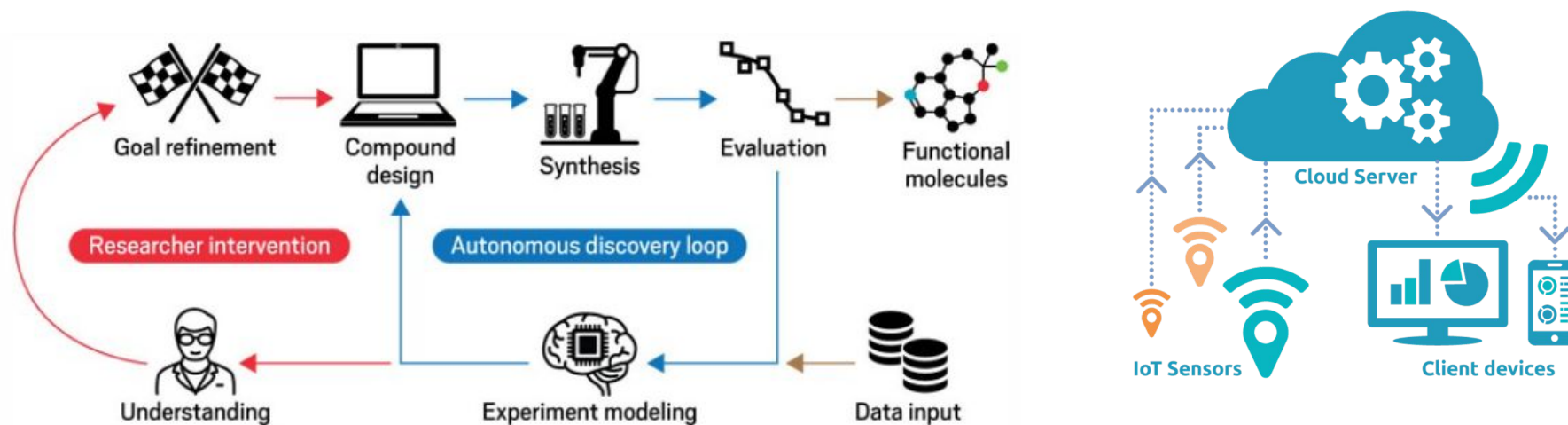
- *Overview*
- *Automation (IAS)*
- *Case study*
- *Conclusion*



Intelligent Automation System:

Intelligent Automation System (IAS) is a combination of Robotic Process Automation (RPA) and Artificial Intelligence (AI) technologies which together empower rapid end-to-end process automation and accelerate digital transformation.

Certainly, it would make a huge impact on chemistry automation.



Intelligent Automation System:

Intelligent Automation System (IAS) can be divided into two main parts:
Automation and AI.

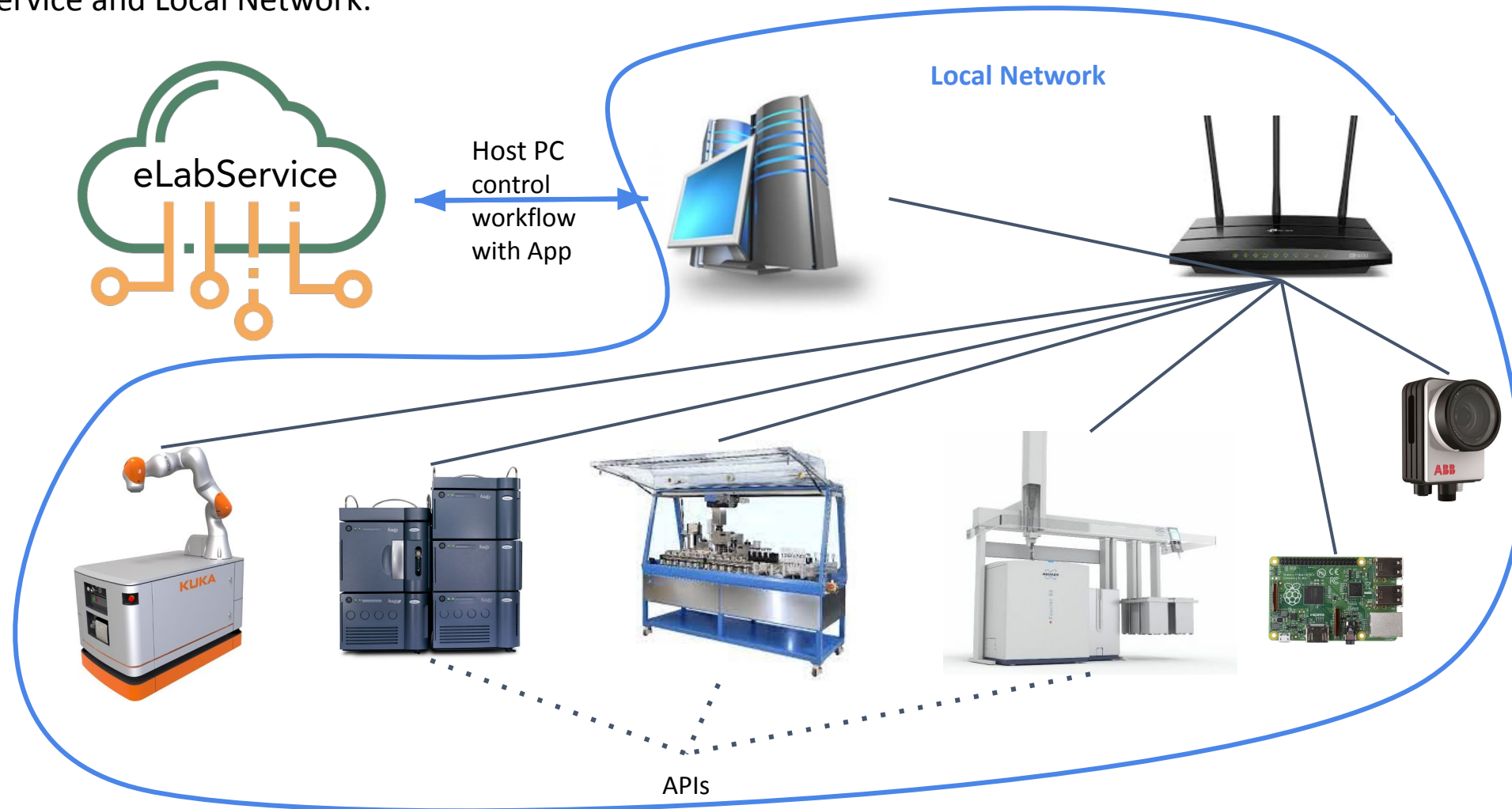


Smart entities in Autonomous Chemistry Lab (ACL):



Network Architecture in ACL:

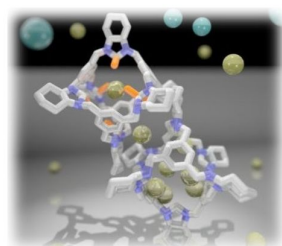
—Cloud Service and Local Network:





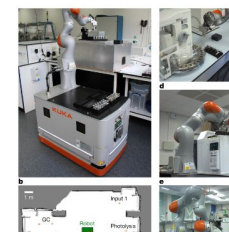
eLabService for ACL:

—Perform lab activities remotely, research data management, CCTV, etc.:



The Advanced,
Intelligent Automation System

Simplify New Materials Discovery with a Powerful Online Lab



[Lab Activities](#)

Robotic Workflows and lab Instruments management



[Data Management](#)

Research Data Management



[CCTV](#)

CCTV for the Lab Activities

eLabService for ACL:

—Perform lab activities remotely, research data management, CCTV, etc.:

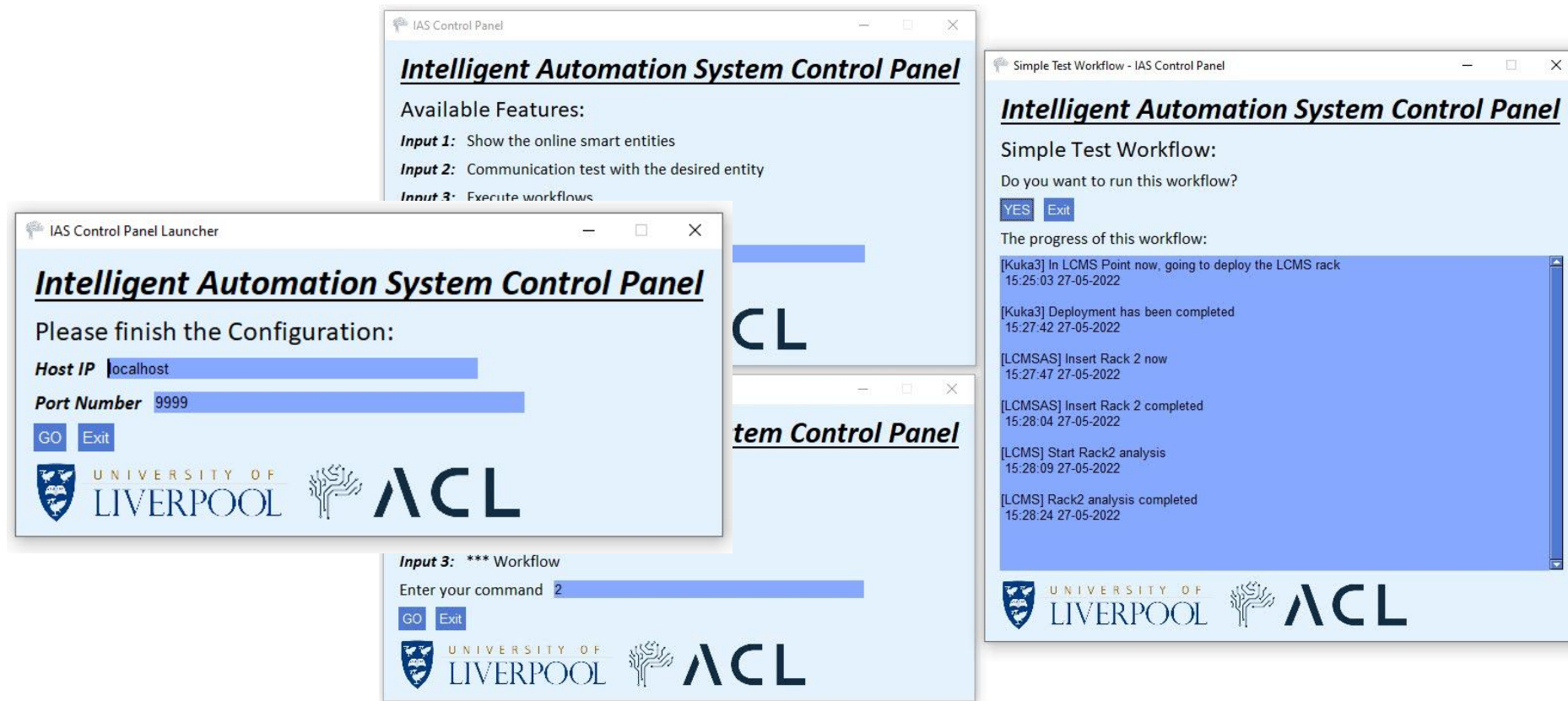




Automation(IAS) in ACL:

—Intelligent Automation System Control Panel (App):

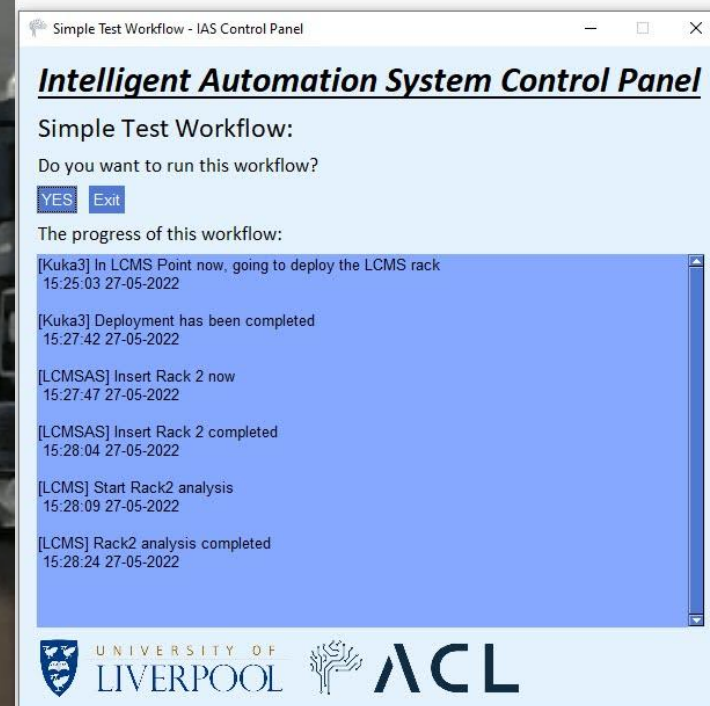
This App could run on most Windows 10 PC, no other dependencies are required.





Automation(IAS) in ACL:

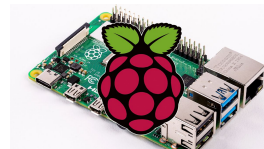
—Kuka works with LCMS:



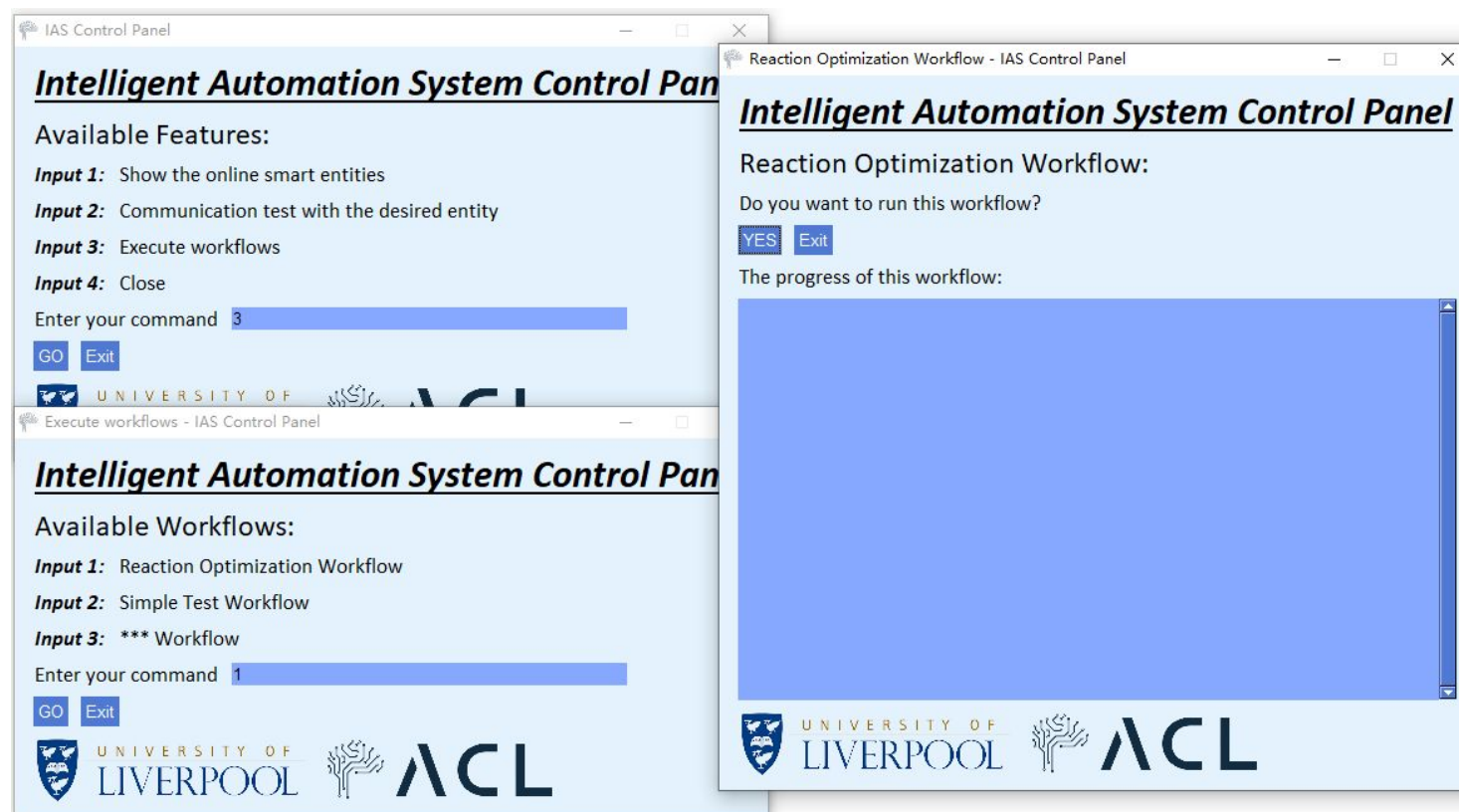


Automation(IAS) in ACL:

—The closed-loop Chemspeed and Kuka implementation:



Demo video for parts of the robotic workflow:



Thank you