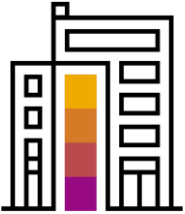




SAP® Innovation Awards 2020 Entry Pitch Deck

Say “Hi” to **EMMA** – The Learning (ML) Robotic Process Automated (RPA)
Test Engineer with Eyes, Arm, Ear & Artificial Intelligence (AI)

Wianco OTT Robotics



Company Information

Headquarters	Seeheim-Jugenheim, Germany
Industry	Manufacturing of robotic working colleagues for test automation and RPA development
Web site	https://www.wianco.com

Wianco OTT Robotics GmbH is a spin-off founded in 2019 by **Wianco** based on the development of the robotic test engineer **EMMA** in order to eliminate skills-shortage and rising costs for IT Quality Assurance in software production processes.

Together with VANTAiO we put our main focus on answering the question “How to perform reliable and cost-efficient test automation” with the benefits of robotic process automation (RPA) for SAP software solutions.

What if you could test any SAP applications end2end on all devices (Smartphones, Tablets, TVs, Digital Signages) and even voice-controlled devices and related applications that maximize benefits from SAP Conversational AI with a Robotic Test Engineer?

Wianco OTT Robotics and VANTAiO thrive on extending our robotic process automation (RPA) skills and bring SAP solution test automation to a new level with the helping hand and artificial intelligence (AI) of **EMMA**.

EMMA – the Robotic Test Automation Engineer

Wianco OTT Robotics



“In a properly automated and educated world, then, machines may prove to be the true humanizing influence. It may be that machines will do the work that makes life possible and that human beings will do all the other things that make life pleasant and worthwhile.”

Isaac Asimov, Robot Visions

Challenge

Software development is very complex: you deliver a window, the door doesn't work anymore. Manual UI testing is expensive – conventional automatic testing, too. Qualified engineers are missing or even worse: they leave your company, taking the valuable know-how. Human testers are getting tired and don't work 24/7. It is not documented properly what was tested and how.

Solution

EMMA is an **easy** to use **cost-efficient** test automation **robot**, who can test any software on any device, end2end on unmanipulated test objects (no code injection or hardware manipulation necessary), 24/7 while automatically writing audit compliant test reports. EMMA can **interact with the physical world** and learns from user interaction, feedback, and generated tests.

Outcome

Employees can concentrate on creative tasks and get satisfaction out of their work. Cost for IT Quality Assurance decreases by up to 90%. Software quality becomes measurable. User interface regression testing with full coverage becomes feasible. Revision proof test reports avoid communication ping-pong between developers and testers.



90%

Cost Savings for
IT Quality
Assurance

10x

Higher
productivity
compared to
manual testers

90%

Employee
satisfaction of
test engineers
and developers



Participating Partner Information



VANTAiO

Integration of EMMA's test automation skills to the SAP Solution Platforms

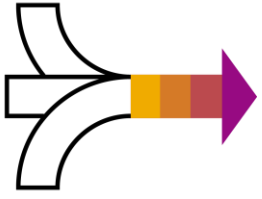


We discovered EMMA to be a perfect robotic test engineer in order to automatically test our SAP portal solutions end2end on all possible devices while automatically getting a audit compliant test report.

Making use of an intelligent and learning test automation robot is key of our IT quality assurance strategy for continuous software development and evolving as an intelligent enterprise.

VANTAiO is known for its expertise in SAP portal solutions & technology. Based on our modular system, we supply preconfigured software modules, add-ons and complete solutions for your SAP business purpose: Digital Workplace, HR Portal, Customer Portal, Service Portal or Supplier Portal.

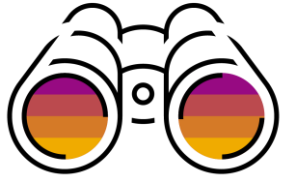
VANTAiO



Business Challenges and Objectives

- Existing test automation solutions do not work properly for end2end testing. “Selenium” or UIVeri5 sees the object “button” in the markup and triggers the “onClick()” event, but a human sees, that the button is not clickable, not completely rendered, (partially) hidden by an overlay or displaying the wrong language. And it doesn’t work with SAP Conversational AI or the new iPad – immediately, which came out yesterday.
- Hence, we still need and make extensive use of manual testers, that get tired and cannot perform a needed complete regression test. Qualified employees are missing and expensive (also finding them). And if they leave the company, they take all their know-how about the processes, product and the company.
- Even enterprise software gets delivered with poor quality. The customer tests it. We still don’t have reliable reports of “what” was tested and “how?”. Testers & developers play expensive ping-pong in their communications to figure that out.

What if you could test SAP Fiori and other applications end2end on all devices (Smartphones, Tablets, TVs, Digital Signages) and even voice-controlled devices and related applications based on SAP Cloud Platform and/or SAP S4/HANA that maximize benefits from SAP Conversational AI with a Robotic Test Engineer. Cost-saving, easy to use, immediately available, working 24/7, never leaves your company with the know-how and comes with an evolving artificial intelligence and machine learning capability in order to accelerate your growing demand for robotic process automation that compared to other RPA solutions even interacts with the physical world – looking with eyes, touching with kinematics, speaking and listening. EMMA can do this out-of-the-box, so our objective was to create EMMA and keep evolving her.



Project or Use Case Details

1. EMMA sees, what she's doing using Machine Vision and Object Recognition.
2. She is an out-of-the-box automation solution for any software on any device.
3. She removes the need for qualified test engineers or software developers (skills shortage) doing tedious, repetitive jobs for UI regression testing on e.g. SAP Fiori Launchpad or SAP Conversational AI applications that robots can do better.
4. EMMA can switch devices during one test case in order to check cross device system interoperability (e.g. start TEST A on the iPhone and proceed with TEST A on the PC).
5. EMMA works 24/7 from any location worldwide on any system worldwide and saves up to 90% of expenses for software testing.
6. Continuous development of AI and Machine Learning capabilities to achieve further robotic process automation (RPA) is key to automate any repetitive job in a company, so the employees can focus on creative, humane work.
7. Teams of previously **manual testing employees** for a certain software system now **evolved to offer test automation services**, using EMMA for other areas in the enterprises and grow the enterprise intelligence by conserving the know-how into EMMA.

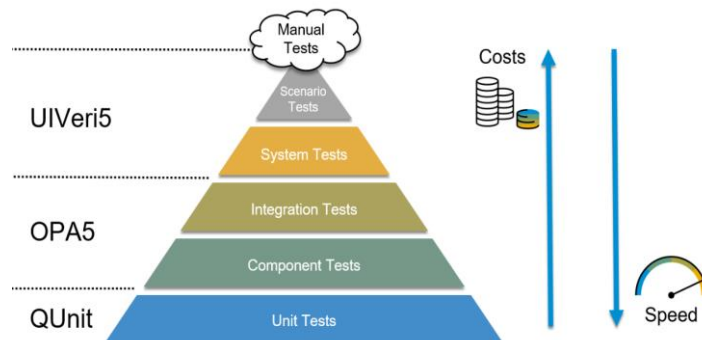




Benefits and Outcomes

Business or Social

- Return on Invest within 1 year.
- **Measurable** Software Quality improvement.
- Significant reduction of costs for:
 - IT Quality Assurance,
 - Software Production (no tester-developer ping-pong),
 - Recruiting and Keeping qualified employees and related know-how



IT

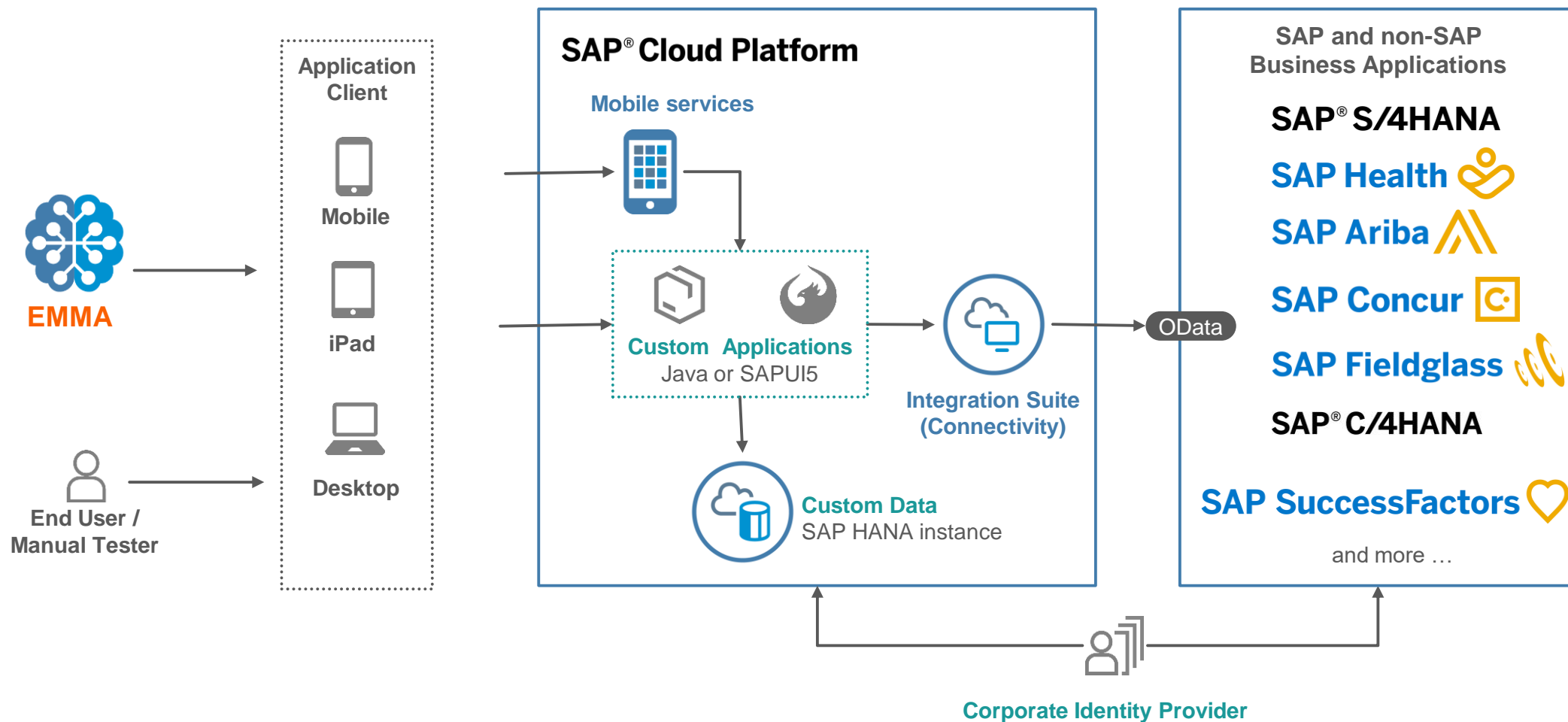
- Revision proof report of “what has been done” and “how exactly has it been done.”
- Transform human know-how into solid process automation using a learning robot.
- Make use of test automation capabilities for SAP Conversational AI.
- Perform UI regression testing automatically where Selenium or UIVeri5 run into limitations.

Human Empowerment

- 90% employee satisfaction of manual test engineers, since they evolved to test automation engineers with EMMA as helpful colleague who extends their human skills with intelligent process automation. The manual testers that started to work with EMMA get growing recognition and appreciation for their new automation role within their enterprises.
- They say “working with EMMA is really fun”, since their new work within the automation process is more interesting, demanding and they can carry more work.



Architecture





Deployment



Deployment status Live

Date Q3 2019 Number of users 10

SAP technologies used:

	SAP product	Deployment status (live or proof of concept [POC])	Contribution to project
1	SAP Cloud Platform	Live	Automated testing of SAP portal solutions that are based on SAP Cloud Platform
2	SAP S/4HANA	POC	Using intelligent automation to drive transformation
3	SAP Conversational AI	POC	Voice controlled application testing
4	Other SAP Technology	POC	Testing SAP SuccessFactors
5	SAP Cloud Platform Integration Suite	Live	Connectivity to other SAP & non-SAP systems

If you have used one of the services or support offerings from SAP Digital Business Services during the implementation or deployment phase, please select with ☒ one or more of the following offerings:

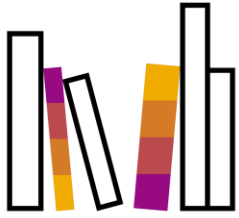
- ☐ SAP MaxAttention™
- ☐ SAP ActiveAttention™
- ☐ SAP Advanced Deployment
- ☐ SAP Value Assurance
- ☐ SAP Model Company
- ☐ Others:
- ☐ SAP Innovation Services
- ☐ SAP Innovative Business Solutions



Advanced Technologies

The following **advanced technologies** were part of the project.

	Technology or use case	Yes or No	Contribution to project
1	3D printing	No	
2	Blockchain	No	
3	Internet of Things (IoT)	No	
4	Machine learning or AI	Yes	EMMA learns from the operations of the user, uses visual object recognition and OCR as well as “text to speech” and “speech to text” in order to listen and communicate with voice controlled devices.
5	Conversational AI	Yes	Automated testing of voice controlled applications that make use of SAP Conversational AI
6	Robotic process automation	Yes	EMMA performs robotic process automation but in addition to other solutions interfaces with the real world by using kinematics, cameras and microphones.
7	Data anonymization	No	
8	Augmented analytics	No	

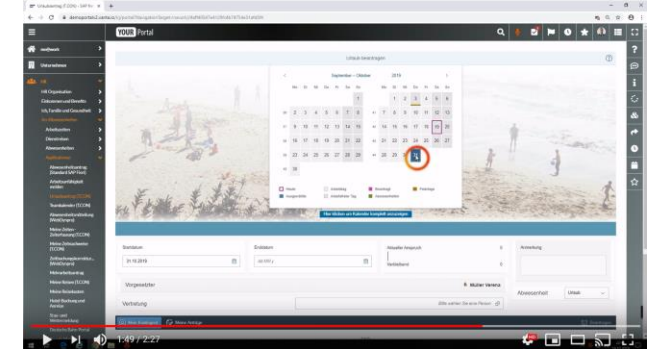
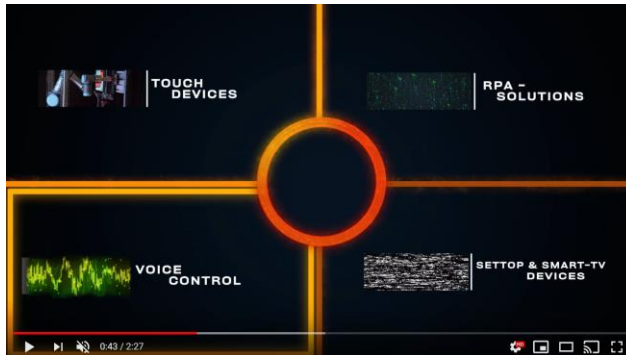


Additional Information

See EMMA in action at:

<https://www.youtube.com/watch?v=pYn3Ak2yy1U>

The video shows, how EMMA performs test automation on an iPad, an AppleTV, using Alexa to gather weather information by listing and comparing this data on weather platforms and last, but not least performing test automation on the SAP Cloud Platform based VANTAiO HR portal.



The future evolution of EMMA targets full capabilities of robotic process automation (RPA) by evolving her artificial intelligence (AI) and machine learning skills (ML) up to a level, on which she doesn't need any more input besides the access to your applications.