samsoftware

Solution for Advance Manufacturing

Company Profile

Marco Bottinelli
Stefano Preda
Company owners

samsoftware
Solutions for Advanced Manufacturing

Vision and Mission

VISION

Maintain a strategic orientation towards the reference technological markets where we can increase our know-how and bring innovation to processes and methodologies

MISSION

Supporting our customers in their strategic evolution processes, helping them to focus and satisfy emerging needs, setting objectives and benefits of interventions and proposing technological solutions

The 4 Company Capabilities Pillars

Manufacturing Home Appliance Testing Systems

Manufacturing Data Collection and Quality Tracking

Manufacturing Automation Processes

EU Projects SW Specialist Consultant

9 Technological Milestones

2001 – Full Automatic Washing Machine and Programmable Testing System

2008
Appliance Testing Communication Technology

2010/'16/'20
EU projects SW Consulting: GRACE, BEinCPPS and QU4LITY

2004/'05
Parallel Testing Process and OPC implementation

2009
Programmable Asynchronous Events in Testing Process

2017
Develop PC/PLC communication with native S7 Protocol

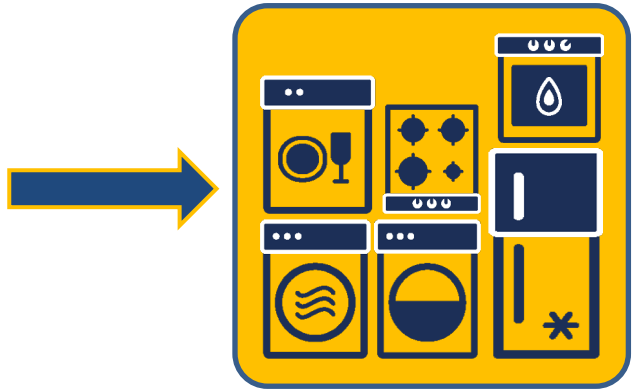
2007
Network Failover Reliability
New Configurable Graphic HMI

2010
Integration of Measure Curves Analysis and Mfg Quality Tracking

2018/'20
New Testing SW Generation

Functional Testing System developed for Whirlpool

Schorndorf Washing Machines (2001)
Poprad Washing Machines (2002/2007)
Napoli Washing Machines (2004/2007)
Cassinetta Side By Side Refrigerators (2004)
Wroclaw Hob and Oven (2005)
Cassinetta Hob and Oven (2007)
Amiens Dryer (2007)
Siena Chest Freezer (2009)
Cassinetta Refrigerator (2011)
Cassinetta Micro-Wave Oven (2014)
Melano Hobs (2016)
Lodz Dryer (2017)
Lodz Cooking (2020)



Appliance Performance Measuring

Full Automated and Configurable Testing Process

Quality Standard Definition and Data Elaboration

Programming Stations and Labs developed for Whirlpool

- **Electronic Programming Station**
  - Amiens Dryer
  - Poprad Washing
  - Naples Washing
- **Zero Hour Quality Labs**
  - Amiens Dryer
  - Poprad Washing
  - Naples Washing
- **Reliability Labs**
  - Poprad Washing
  - Naples Washing

Appliance Performance Measuring

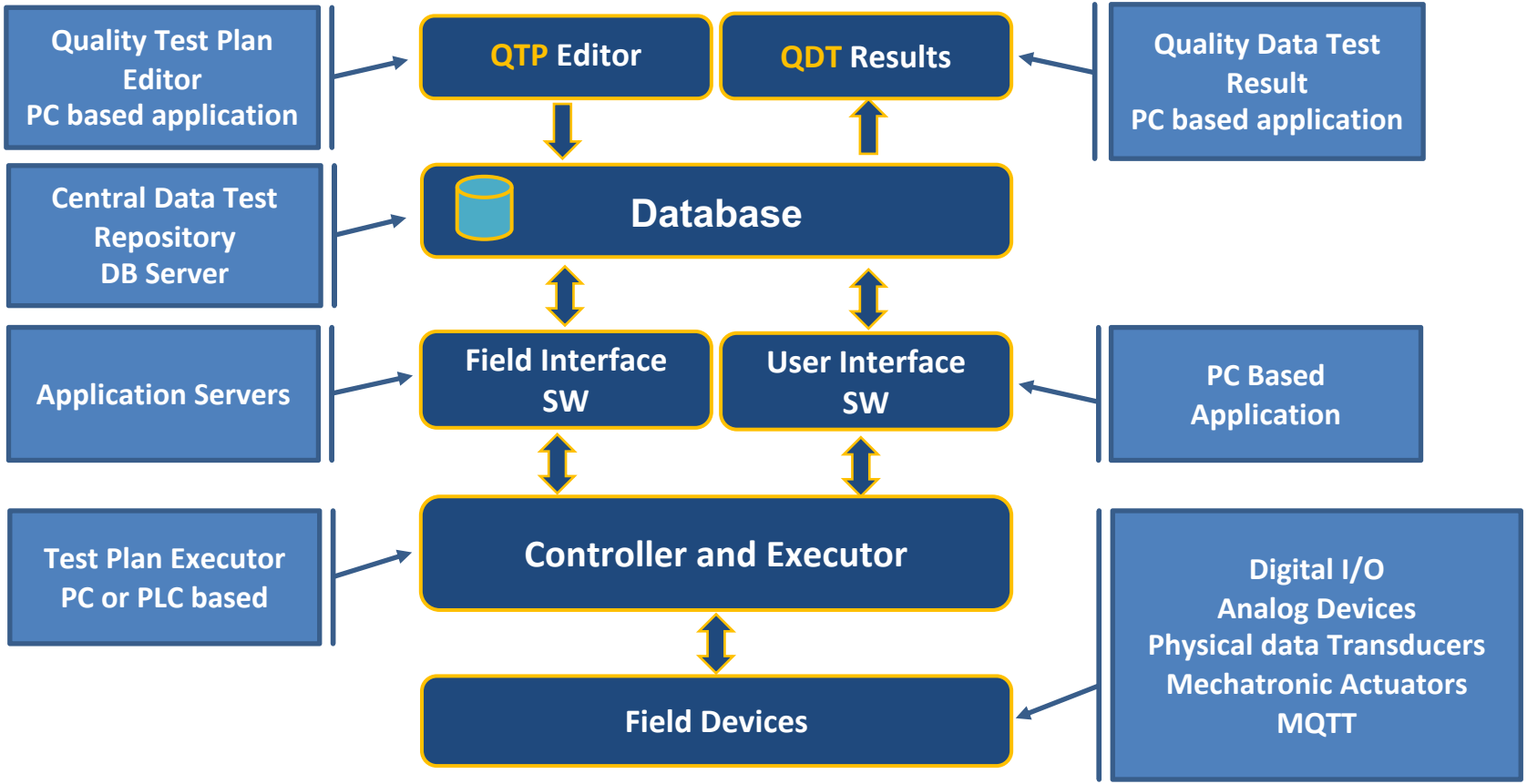
Full Automated and Configurable Testing Process

Quality Standard Definition and Data Elaboration

Functional Testing System: main features

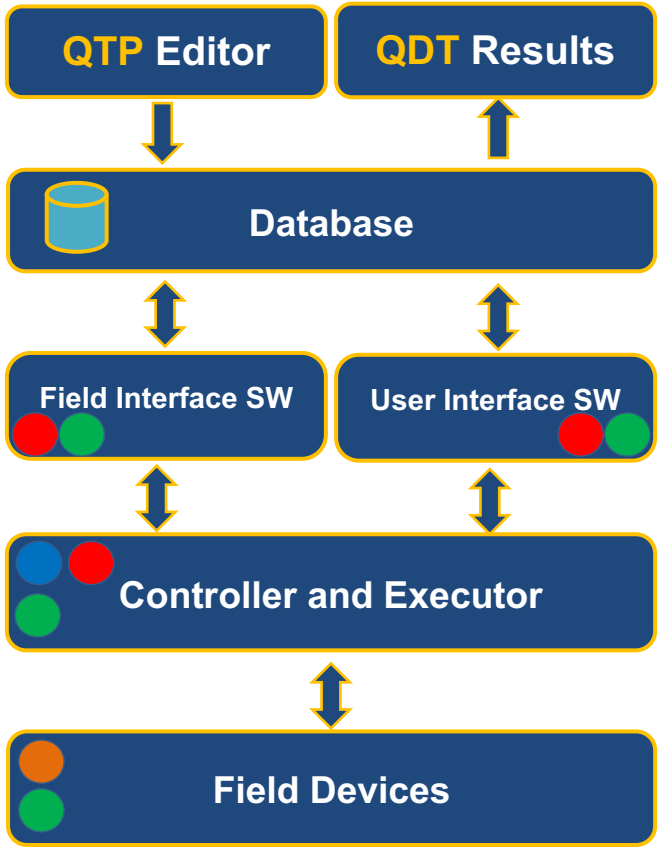
- Able to support the appliance peculiarity
- Cross appliance platform configurable and standardizable
- Quality Test Plan full programmable and configurable by the quality plant engineer
- Quality Data Tracking availability for easy trend and historical analysis
- Flexible to evolve together with product evolution
- Graphic and Programmable workstation HMI
- QTP Editor and QDT Result installable everywhere

Functional Test System Architecture: The Main Elements



Functional Test System Architecture: The Scalability

- New Station adding
- Modules distributed or centralized
- PC or PLC HW based
- Hardware Supplier independent



EU Projects Involvement

GRACE Project (CP-FP 246203-2)

The main objective of GRACE is to conceive, study, develop, implement and validate a collaborative multi-agent system (MAS) which operates at all stages of a production line, integrating process control with quality control at local and global level

Activities by samsoftware:

- Naples WM Plant production and quality data collection analysis
- Data Base and Applications Development
- Factory Data centralization (from various sources)
- Implementing Functional Model of Product (MPFQ Model)

BEinCPPS Project (GA- 680633)

BEinCPPS Innovation Action aims to integrate and experiment a CPS-oriented Future Internet-based machine factory-
cloud service platform firstly intensively in five selected Smart Specialization Strategy Vanguard regions(Lombardia in Italy, Euskadi in Spain, Baden Wuertemberg in Germany, Norte in Portugal, Rhone Alpes in France), afterwards extensively in all European regions, by involving local competence centres and manufacturing SMEs.

Activities by samsoftware:

- BEinCPPS, redesign of an existing system in production (ZHT Naples) in according with CPPS model
- Integration with OPC UA model
- Integration with Analytics and Data Acquisition
- Integration with Tablet Apps (Android)

QU4LITY Project (DT-ICT-07-2018-2019)

Digital Reality in Zero Defect Manufacturing. Digital Manufacturing Platforms for Connected Smart Factories. QU4LITY will demonstrate, in a realistic, measurable, and replicable way an open, certifiable and highly standardized, SME-friendly and transformative shared data-driven ZDM product and service model for Factory 4.0 through 5 strategic ZDM plug & control lighthouse equipment pilots and 9 production lighthouse facility pilots.

Activities by samsoftware :

- Developing a specific ETL process (Extract, Transform, Load) in order to move data from multiple sources (ERP, CRM, Excel, Open Data, Internet Of Things, Social Networks ...) to QU4LITY data Ontology DB (WH Lodz Dryer Plant)

samsoftware & SMC Technological Integration

Business Areas

- Automation
- Testing
- Robotics
- EU Projects

Quality Data Applications

Mechatronics Technologies

SW Standardization

Quality Process Design

Automation Process Design

Manufacturing Solution Partnership

Concept → Design → Realization → Installation → Post Selling Support

SMC AUTOMATION

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References

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Partnerships

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Thanks