



SHION (SMART THERMOPLASTIC INJECTION)

UNION EUROPEA - PROGRAMA H2020

CloudiFacturing: Cloudification of Production
 Engineering for Predictive Digital Manufacturing
 Grant agreement No 768892
Duración CloudiFacturing: 01/10/2017-31/05/2021
Duración Shion: 15/02/2019-15/02/2020



PRESENTACIÓN Y OBJETIVOS:

SHION approach will use cognitive technologies (specially Deep Learning algorithmics) to be able to extract the knowledge to generate a predictive model to detect when a defect in the production is going to happen by considering mainly information of the Thermoplastic Injection process itself, with the intrinsic parameters of the injection machine for each piece, as well as context information like environmental conditions, operators review, quality laboratory inspections and piece weight. Constant evolution of the cognitive models generated is also supported.

Our innovative approach will optimize injection processes by the introduction of cognitive technologies (BD, ML, DL and cloud) by extracting knowledge from acquired data of:

- Injection process (temperature, pressure, cycle time, volume, flowmeter ...)
- Environmental conditions (temperature, relative humidity)
- Contextual (material, piece sensor info)
- Inspections (operators, quality lab)

Our solutions aim to improve efficiency, quality and productivity of monitored manufacturing processes by anticipating possible faults. During the CloudiFacturing experiment, 2 Thermolympic production lines will be considered.

EXPERIMENTO:





Thermolympic, S.L. (Experiment Coordinator/End User) Spanish plastic injection SME.

BMS Vision. (ISV, Large company) Belgium large multinational company providing MES for real time machine.

Instituto Tecnológico de Aragón ITAINNOVA (ISV) Spanish R&D center providing Moriarty technology for fast prototyping of AI and cognitive solutions.

ENTIDADES PARTICIPANTES

- ❖ THE UNIVERSITY OF WESTMINSTER LBG (*UOW*)
- ❖ FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V. (*Fraunhofer*)
- ❖ CLESGO GMBH
- ❖ CLOUDSME UG (*CLOUDSME*)
- ❖ CLOUDBROKER GMBH (*CLOUDBROKER*)
- ❖ CLOUDSIGMA AG (*CLOUDSIGMA*)
- ❖ SCALETOOLS AG (*SCALETOOLS*)
- ❖ LUNDS UNIVERSITET (*ULUND*)
- ❖ STIFTELSEN SINTEF (*SINTEF*)
- ❖ SCUOLA UNIVERSITARIA PROFESSIONALE DELLA SVIZZERA ITALIANA, (*SUPS*)
- ❖ MAGYAR TUDOMANYOS AKADEMIA SZAMITASTECHNIKAI ES AUTOMATIZALASI KUTATOINTEZET (*SZTAKI*)
- ❖ THE UNIVERSITY OF NOTTINGHAM (*UNOTT*)
- ❖ INNOMINE GROUP KFT (*INNOMINE*)
- ❖ ALMA MATER STUDIORUM – UNIVERSITA DI BOLOGNA (*UNIBO*)
- ❖ VYSOKA SKOLA BANSKA – TECHNICKA UNIVERZITA OSTRAVA (*IT4I*)
- ❖ INSOMNIA CONSULTING SOCIEDAD LIMITADA (*Insomnia*)
- ❖ STAM SRL (*STAM*)
- ❖ DEUTSCHES FORSCHUNGSZENTRUM FUR KUNSTLICHE INTELLIGENZ GMBH (*DFKI*)
- ❖ LINZ CENTER OF MECHATRONICS GMBH (*LCM*)
- ❖ HANNING ELEKTRO-WERKE GMBH & CO.KG (*HANNING*)
- ❖ CATMARINE SRL (*CATMARINE*)
- ❖ CENTRO DI RICERCHE EUROPEO DI TECNOLOGIE DESIGN E MATERIALI (*CETMA*)
- ❖ SKA POLSKA SP (ZOO) (*SKA*)
- ❖ PRIVREDNO DRUSTVO ZA PRUZANJE USLUGA ISTRAZIVANJE I RAZVOJ NISSATECH INNOVATION CENTRE DOO (*NISSA*)
- ❖ ZANNINI-SPA (*ZAN*)
- ❖ FERRAM STROJIRNA SRO (*FERRAM*)
- ❖ HYDAL ALUMINIUM PROFILER AS (*Hydal*)
- ❖ NABLADOT SL (*Nabladot*)
- ❖ ENDEF ENGINEERING SL (*ENDEF*)
- ❖ DSS CONSULTING INFORMATIKAI ES TANACSADO KFT (*DSS*)



- ❖ BAKONY ELEKTRONIKA VILLAMOSIPARI GYARTO, SZOLGALTATO KORLATOLT FELELOSSEGU TARSASAG (*BE*)
- ❖ COOPERLAT SOCIETA COOPERATIVA AGRICOLA (*Trevalli*)
- ❖ MACHINEERING GMBH & CO KG (*machineering*)

