Improving the quality of an industrial process

We may help an Industry improve the quality of its processes. Usually, this is done the following way, using probabilistic methods:

– Finding, in the process, what are the parameters which have the strongest influence on the overall quality.

– Finding, for these parameters, the tuning which correspond to best results.

– Designing a strategy for checking the smallest number of parts, still ensuring the highest confidence on all parts.

– Designing an overall "guaranty strategy" (how much should the guaranty cost and to what parts should it apply?).

– Defining an "early warning system", which will help the Industry detect the situations where many returns may occur (small numbers of failures, which may turn later to large numbers of failures).

Recent Contracts

– Institut de Radioprotection et de Sûreté Nucléaire, 2006-2008: Probabilistic methods for nuclear safety: definition of the Experimental Probabilistic Hypersurface (a method created by SCM)
– SNECMA Propulsion Solide, 2009-2010: Probabilistic Methods for reliability of plane components
– Areva, 2010: Probabilistic methods for the analysis of nuclear waste
– Groupe Total, 2010: Probabilistic methods for the evaluation of the amount of pollutant
– Caisse Centrale de Réassurance, 2010-2011: Probabilistic methods for the evaluation of extreme phenomena
– PSA Peugeot Citroën, 2011: Probabilistic studies for the extension of guaranties for the cars
– Réseau Ferré de France, 2011: Probabilistic studies related to the delays of the trains in the Paris region

- Groupe Total, 2011-2012: Investigation about possible breaches in large oil containers
- Suez Environnement, 2011-2012: Probabilistic methods for water quality
- ArcelorMittal, 2011-2012: Probabilistic methods for the quality of an industrial process
- Air Liquide, 2011: Hierarchy of parameters and construction of a similarity index between pipelines
- Réseau de Transport d'Electricité, 2012: Comparison between a connected network and an isolated network, in terms of quality of service
- Réseau Ferré de France, 2012-2013: Defining criticity indicators for the delay of trains
- Air Liquide, 2012: Databases for reliability
- Areva, 2013: Probabilistic methods for the evaluation of mechanical properties of components.
- DCNS, Indret, 2013: Hierarchy of parameters in an industrial process for welding
- DCNS, 2013: Preliminary analysis of the reasons for insufficient quality on a production site
- Coop de France déshydratation, 2013: Hierarchy of parameters and their influence upon a dehydration process.
- EDF (French Electricity), 2015: Improving the quality of safety procedures.
- Solétanche-Bachy, 2015: Hierarchy of parameters and their influence upon the deformation of a construction.
- COSEA, 2016: Probabilistic study about water quality.
- Eramet, 2018: Improving the quality of an industrial process.
- SARP Industries, 2019: Hierarchy of parameters in an Industrial process.
- Industry, 2019: Improving a process.
- Orano Mining, 2019: Hierarchy of parameters in an Industrial process.
- Groupe Atlantic, 2019: Probabilistic analysis of the calls to the Consumer Service.
- SARP Industries, 2020-21: Analysis of the parameters involved in the operation of a furnace.
- Eiffage Rail, 2021: Tools for analyzing equipment reliability.
- Teréga, 2021: Probabilistic methods for checking the integrity of pipelines.
- Bouygues Energies & Services, 2022: Methodological support for the design of a "Malfunctions and Maintenance" information system.
- Befesa Valéra, 2022: Prioritization of the parameters involved in the adjustment of an oven.
- Coop de France Luzerne, 2023: Statistical analyzes
- Cristal Union, 2023: Probabilistic methods for comparing biocide trials