

# Concept of « In Vivo » Evaluation to exceed Deming Wheel methodology

*David GIL<sup>1</sup>, Patrick PALMIER<sup>1</sup>, Celine DEPIERE<sup>2</sup>*

<sup>1</sup> *Cerema, Nord-Picardie France (44ter rue Jean-Bart – 59019 France)*

<sup>2</sup> *European Metropolis of Lille, France (1 rue du Ballon 59034 Lille)*

The European Metropolis of Lille (MEL) has chosen Cerema to design an Ecobonus-Mobility project. The aim of this project is to adjust the positive toll principle, currently deployed around Rotterdam (where transport system and regulatory context are quite different from France).

To design the system, it has been necessary to clarify the objectives of the measure. Usual concepts of “priori” or “posteriori” evaluation are not appropriate for this type of innovated project. That’s why it has been necessary to figment the concept of “In Vivo” evaluation, to put the evaluation at the heart of the information system. To design this type of project, the Deming Wheel methodology is generally used: PDCA (C to Check or Evaluate the project). In our case, the evaluation step has been put in the center of the wheel in order to turn the system. During the project’s life, this evaluation process will motor the other parts: Plan, Do, Act and Advertise (not taken into account by the Deming Wheel but essential to the project’s success).

Then, to architecture the system, we have used a systemiq approach to design different independent technical processes. Each system can be viewed as a process to transform data input to output. At each step, according to the “In Vivo” evaluation, analysis were systematically made to identify any sticking points and to prioritize risk. We wanted to consolidate the whole system as it could be made in an “AlquemyLab” (with “qu”, to refer to quality tools). Once the processes were defined, it was necessary to connect the different pieces of the puzzle before taking care of any interface problems and organization.

On the basis of our studies, it only remains to launch the procedure and to select a representative who will be responsible for Putting in place, Operating and Running the system but also promoting Mobility as a Service.