

INTRODUCTION

Since 2012, the French National Institute for Agricultural Research (INRA) has developed the MEANS platform, dedicated to multi-criteria sustainability assessment of agri-food systems:

- ✓ to facilitate multi-criteria assessments of farming and food systems,
- ✓ to collect and share INRA research results: data describing agri-food systems and models to support multi-criteria sustainability assessment.

The MEANS platform aims to provide software to apply several methods of multi-criteria assessment of agri-food systems for the three dimensions of sustainability.

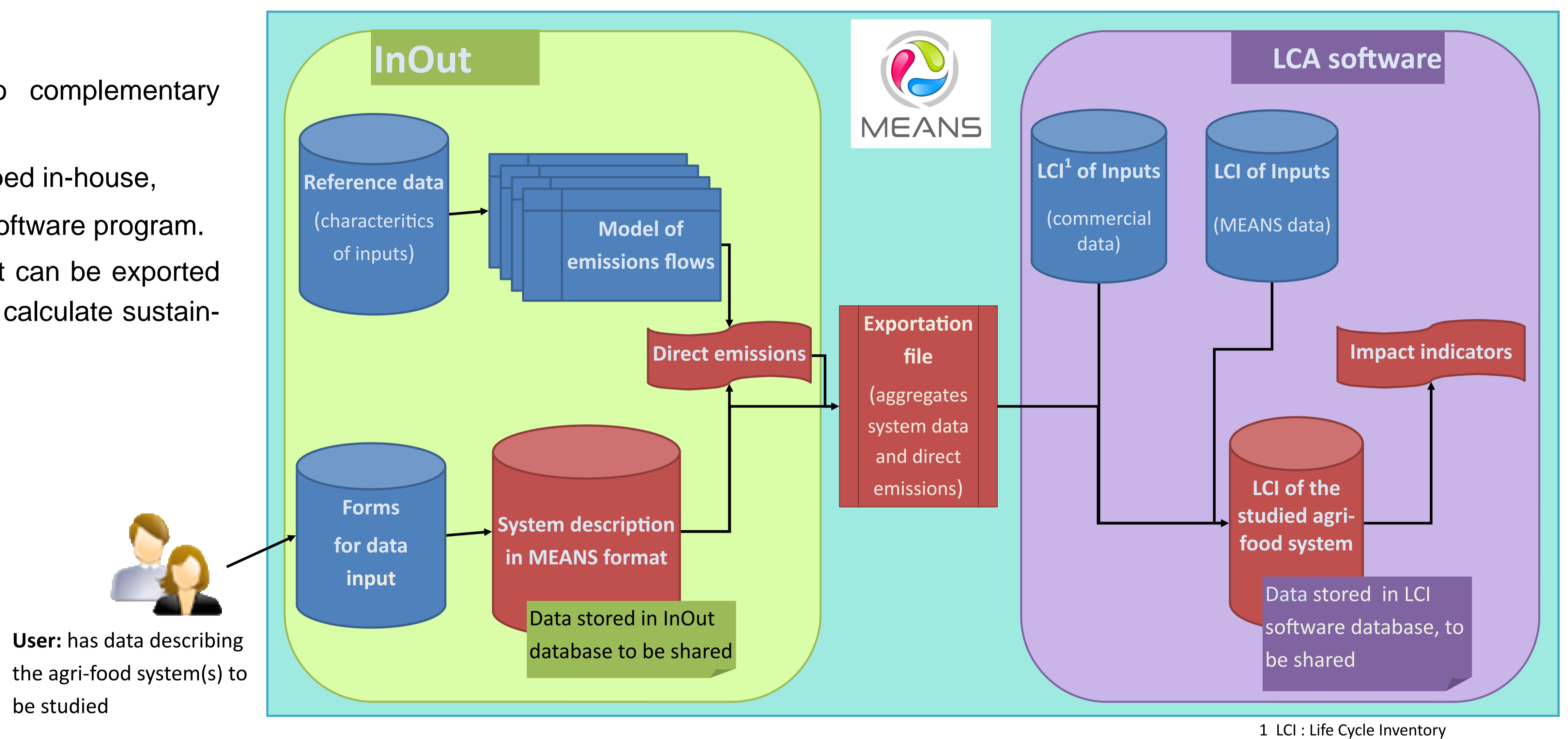
In the first stage, MEANS has been designed for environmental assessment within the framework of Life Cycle Assessment (LCA).

PRINCIPLES

MEANS provides two complementary software programs:

- ✓ InOut, a tool developed in-house,
- ✓ a commercial LCA software program.

Data prepared in InOut can be exported to the LCA software to calculate sustainability indicators.



1 LCI : Life Cycle Inventory

Figure: MEANS platform workflow

RESULTS AND DISCUSSION

MEANS: an evolving collaborative workspace

- ✓ Initial version of InOut, operational for crop production, available since November 2014:

<http://www.inra.fr/means>

- ✓ InOut for animal production: under development. Delivery: autumn 2016.
- ✓ Modelling tool for food processing: design phase starts in 2016.
- ✓ Tools and methods for economic and social dimensions: near future.

InOut: original features

- ✓ A multi-functional tool dedicated to agri-food systems:
 - ↳ A tool to collect data,
 - ↳ A tool to share data describing the systems,
 - ↳ A tool to calculate direct pollutant flows (embedded models).
- ✓ An incremental database, enhanced by each user.
- ✓ An interface available in French and English.

InOut's strengths: emission models

- ✓ Models to estimate emissions: a major challenge for agricultural LCA.
- ✓ InOut's emission models consider soil, and climate conditions and agricultural practices.
- ✓ InOut will provide several models to calculate flows of a given substance,
 - ↳ Allowing the user to choose the most appropriate model.

PERSPECTIVES: A PROJECT OPEN TO PARTNERSHIPS

To develop MEANS, INRA is looking for scientific partnerships.

Partnerships have been established with ADEME¹ and CIRAD² to:

- ✓ Accelerate development of the InOut software,
- ✓ Extend the features of MEANS to agri-food systems, models and multi-criteria assessment methods developed by partners,

- ✓ Expand the audience of the platform beyond INRA users.
 - ↳ MEANS is a partner of AGRIBALYSE®, a national project of ADEME, dedicated to developing LCI data for agricultural products.

¹ ADEME: French Environment and Energy Management Agency

² CIRAD: French agricultural research and international cooperation organization