



HAL
open science

Design of the Do It Together approach

Fedoua Kasmi, Brunelle Marche, Laurent Dupont, Frédérique Mayer, Marc Pallot, Tobias Leiting

► **To cite this version:**

Fedoua Kasmi, Brunelle Marche, Laurent Dupont, Frédérique Mayer, Marc Pallot, et al.. Design of the Do It Together approach. INEDIT Project - Deliverable 2.2, European Union's Horizon 2020 research and innovation programme; Université de Lorraine. 2021, pp.85. hal-04257057

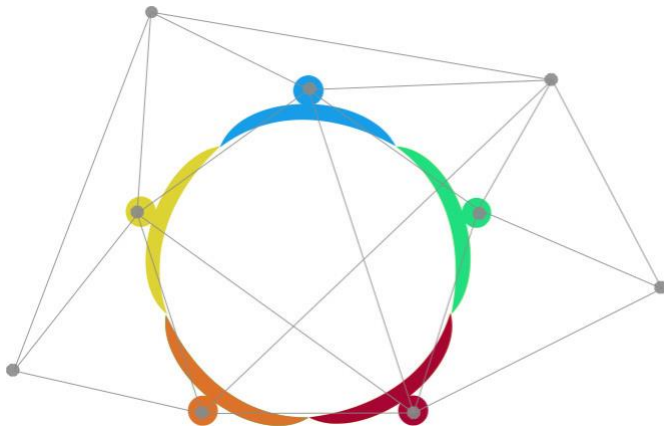
HAL Id: hal-04257057

<https://hal.univ-lorraine.fr/hal-04257057>

Submitted on 20 Dec 2023

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



INEDIT

open INnovation Ecosystems
for Do It Together process

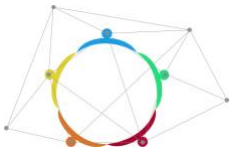
T2.2 DESIGN OF THE DIT APPROACH


WP2.2

Version 8

05 2021



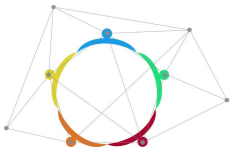


	Work Package:		2
	Type of document:		Working progress
	Due Delivery Date:		October 2020
	Actual Delivery Date:		October 2020
Responsible:	UL		
Dissemination Level			
Title:	Design of the DIT approach		
Description:	Identify the State the art on DIY and DIT Specify DIT approach vision Define the requirements specifications of the DIT platform Define a sustainable logistics process Specify the DIT ecosystem		
Version	8		
Contributors	Versions	Dates	Revision Description
UL	1	02 March 2020	State of the art, DIT approach vision, Sustainable logistics process
FIR	2	24 April 2020	DIT ecosystem
UL	3	27 April 2020	State of the art, DIT approach vision, Sustainable logistics process DIT ecosystem, Requirements specifications
ENSAM	4	24 Aug. 2020	User Experience Design Document review
UL	5	08 Sept. 2020	Document review
SUPSI	6	01 Oct.2020	Document review
UL	7	02 Oct.2020	Final document review
UL	Reviewed version	28 May 2021	Reduction of the initial version of the report submitted in October 2020 (state of the art and appendix)

Disclaimer

This document is provided « as is » with no warranties whatsoever, including any warranty or merchantability, non-infringement, fitness for any particular purpose, or any warranty otherwise arising out of any proposal, specification or sample. No license, express or implied, by estoppels or otherwise, to any intellectual property rights are granted herein. The members of the project INEDIT do not accept any liability for actions or omissions of INEDIT members or third parties and disclaim any obligation to enforce the use of this document.

This document reflects only the authors' view and the Commission is not responsible for any use that may be made of the information it contains. This document is subject to change without notice.



Scientific editor:

Dr. Laurent Dupont, T2.2 leader - ORCID: <https://orcid.org/0000-0002-8279-9690>

Université de Lorraine, ERPI, F-54 000 Nancy, France

Contact: l.dupont@univ-lorraine.fr

Contributors (in alphabetical order):

Dr. Laurent DUPONT¹, Dr. Fedoua KASMI¹, Tobias LEITING², Dr. Brunelle MARCHE¹, Dr. Frédérique MAYER¹,
Dr. Marc PALLLOT³,

¹Université de Lorraine, ERPI, F-54 000 Nancy, France

²FIR e.V. an der RWTH Aachen, Institute for Industrial Management at RWTH Aachen University

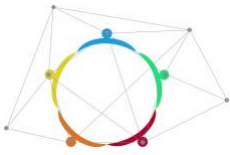
³Arts et Métiers ParisTech - Equipe Présence & Innovation du LAMPA (EA1427)

Acknowledgment:

The authors thank: the INEDIT consortium; Tobias LEITING (FIR) for the description the DIT ecosystem and the review of the version 1; Silvia MENATO (SUPSI) and Riccardo CANAVESI (SUPSI) for the review of the version 7. The EU reviewers for their valuable comments.

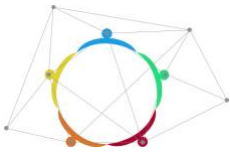
How to cite:

Fedoua Kasmi, Brunelle Marche, Laurent Dupont, Frédérique Mayer, Marc Pallot, Tobias Leiting. Design of the Do It Together approach. INEDIT Project - Deliverable 2.2, European Union's Horizon 2020 research and innovation programme; Université de Lorraine. 2021, pp.85. ([hal-04257057](https://hal.archives-ouvertes.fr/hal-04257057))



Summary

EXECUTIVE SUMMARY	5
1. INTRODUCTION.....	6
2. OVERVIEW OF DO-IT-YOURSELF	8
2.1. EMERGENCE, DEFINITION AND EVOLUTION OF THE DO-IT-YOURSELF CONCEPT	8
2.2. TYPOLOGIES AND MOTIVATIONS OF THE DO-IT-YOURSELF	9
3. FROM DO-IT-YOURSELF TO DO-IT-TOGETHER	11
3.1. MOVING FROM INDIVIDUAL CREATIVITY TO COLLECTIVE CREATIVITY: THE ROLE OF INNOVATION SPACES	11
3.2. EXPERIENCE DESIGN (XD) AND USER EXPERIENCE (UX)	13
3.3. THE DO-IT-TOGETHER: A SOCIAL PRODUCT DEVELOPMENT APPROACH	15
3.4. CONCLUSION	18
4. CONCEPTUAL FOUNDATIONS OF THE DIT WITHIN THE CIRCULAR ECONOMY	21
4.1. OPEN MANUFACTURING: A NEW MANUFACTURING NETWORK	21
4.2. CIRCULAR ECONOMY: A NEW PARADIGM BASED ON 7 PILLARS	25
5. THE DO-IT-TOGETHER APPROACH VISION.....	27
5.1. DESIGN AN INNOVATIVE AND GENERIC PROCESS	27
5.2. THE DIT APPROACH, SEVERAL PROCESSES AT DIFFERENT SCALES	29
5.3. DESIGN OF A NEW MODE OF WORKING BETWEEN DIFFERENT STAKEHOLDERS	29
5.4. DESIGN A SUSTAINABLE ECOSYSTEM BASED ON SUSTAINABLE PROCESSES.....	31
5.5. DO-IT-TOGETHER PROCESS	32
6. DESCRIPTION OF THE POSSIBLE FUNCTIONALITIES OF A DIT PLATFORM	37
7. REQUIREMENTS OF THE DIT PLATFORM	39
7.1. ACCELERATOR OF IDEAS AND DESIGN SUPPORT	39
7.2. OPEN INNOVATION DRIVER AND PROFESSIONAL NETWORK	40
7.3. PROJECT CAPITALIZATION	41
7.4. SALES SUPPORT	43
7.5. PRODUCTION SUPPORT	44
7.6. ACCELERATOR OF CIRCULAR ECONOMY	45
8. CONCLUSION	47
9. REFERENCES.....	48
APPENDIX 1 – CO-CREATION PROCESSES	52
APPENDIX 2 – OPEN MANUFACTURING PROCESSES	66

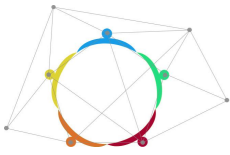


List of figures

<i>Figure 1: Report outline and expected results (task 2.2)</i>	7
<i>Figure 2: Leading DIY companies in Europe in 2018, based on turnover in billion euros (Statista, 2020)</i>	9
<i>Figure 3: The iterative XD process (Pallot et Pawar 2012)</i>	14
<i>Figure 4: Conceptual Model of Social Product Development (SPD)</i>	17
<i>Figure 5: Personalization of a product in the context of social manufacturing (Jiang et al. 2016)</i>	18
<i>Figure 6: Evolution of the manufacturing ecosystem</i>	21
<i>Figure 7: A spiral model of knowledge processes of manufacturers (Li et al. 2018)</i>	23
<i>Figure 8: Simplified representation of the two main processes of DIT approach</i>	28
<i>Figure 9: illustration of the INEDIT multi-scale</i>	29
<i>Figure 10: Organizational Framework of the Do-It-Together</i>	31
<i>Figure 11: Description of the DIT process</i>	32
<i>Figure 12: Detailed representation of the co-creation process</i>	33
<i>Figure 13: Detailed representation of the open manufacturing process</i>	35

List of tables

<i>Table 1: Summary of the specifications and distinctions of the Do-It-Yourself and the Do-It-Together approaches</i>	19
<i>Table 2: Six layers of the knowledge and services exchange framework (Li et al. 2018)</i>	24
<i>Table 3: DIT processes and activities impacted within the circular economy</i>	31
<i>Table 4: Formalism used to describe each DIT processes and sub-processes</i>	32
<i>Table 5: Definition and involvement of stakeholders mainly involved in the co-creation process</i>	34
<i>Table 6: Definition and involvement of stakeholders mainly involved in the open manufacturing process</i>	36
<i>Table 7: Specification for “Accelerator of ideas and design support” function</i>	39
<i>Table 8: Specification for “Open innovation driver and professional network” function</i>	41
<i>Table 9: Specification for “Project capitalization” function</i>	42
<i>Table 10: Specification for “Sales support” function</i>	43
<i>Table 11: Specification for “Production support” function</i>	44
<i>Table 12: Specification for “Accelerator of circular economy” function</i>	45



Executive summary

Description of the task 2.2 from the proposal

Design the DIT approach

A state-of-the-art on the DIY ([section 2](#)) and on the DIT ([section 3](#)) is realized in order to specify the DIT approach vision. The developed approach ([section 5](#)) is transferred into the requirements specification of the DIT platform ([section 6](#) and [section 7](#)) integrating stakeholder needs as well as expectations and existing co-creation platform concepts. The requirements specification is recorded in a specification map, including platform process descriptions. A description of the early involvement of users (e.g. consumers, customers, designers, makers and manufacturers) in the iterative design process and the concept behind the eXperience Design (XD) follows ([section 3](#)).

Definition of sustainable logistics processes:

An analysis of existing logistics concepts is conducted. Thereafter, the requirements of the logistics processes for the DIT platform are recorded, analysed and compared to the existing logistic concepts. Based on this, a logistics concept for the material and information flows is established. The logistics concept is refined in terms of ordering processes, distribution logistic, inventory management and stocking strategy ([section 4](#)). This task will input WP4.

Specifications of the DIT ecosystem:

The DIT requirements are gathered and transformed them into ecosystem specifications ([section 5](#)); interactions and needed requisites are here identified and specified involving the internal project stakeholders as well as those identified during the process of stakeholder analysis in order to deliver a unique vision specifications map ([section 7](#)).

This report addresses the design of the Do-It-Together (DIT) approach performed within task 2.2 activities including the State-of-the-art on the Do-It-Yourself (DIY) and on the Do-It-Together (DIT) concepts, and specify the DIT approach vision.

This report is divided in two parts.

The first part is theoretical and focuses on the definition, the state of the art and the description of the different concepts:

- §2 - Overview of Do-It-Yourself
- §3 - From Do-It-Yourself to Do-It-Together
- §4 - Conceptual foundations of the DIT within the circular economy

The second part is more operational, it describes the processes of the DIT approach and the requirements of the INEDIT DIT platform

- §6 - Do-It-Together approach vision within INEDIT project (Detail in appendix 1 & 2)
- §5 - Description of the INEDIT platform
- §6 - Requirements of the DIT platform