Step 4

## Step 3 – Identify local source of plastic waste

This step seeks to establish a first network of plastic wastes source from the local ecosystem. The task of the identification of local source of plastic is fundamental as the first stage in the recovery process.  
As illustrated in the [Figure 1](#fig-fedoua-00), the methodological approach included the following steps:

1. Pre-diagnosis of the territorial context,
2. Identification of the actors,
3. Analysis of the actors’ involvement and implementation of the smart collector, and finally,
4. Implementation & monitoring.

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| Figure 1: Methodological steps for the identification of local sources of plastic wastes |

Regarding the pre-diagnosis phase, the purpose was to align the INEDIT project with the territorial context. To do so, between XX-2021 and YY-2022, the UL team had exchange with key actors of territorial development agencies and associations (Annex XX for more details) and the priorities in terms of sustainable development. The main output of this phase was the establishment of an initial Swot-Pestel analysis for the implementation of a local recycling network of plastic waste at the neighborhood of Rives de Meurthe at Nancy.

Based on this first step, it was possible to identify relevant stakehoders in the local ecosystems to inquire on the issue of plastic wastes source. First, they needeed to be in a geographical range perimeter (less than 2km around the Green Fablab) following the observations of [@CruzSanchez2020, @Santander2020]. Limiting the geographical perimeter of collection helps in the reduction of environmental impact because of the reduction of transport impact. Second, the diversification of the actor profile that can be sensibilized to the participation of the collection (general public, employees, students) and/or stakeholder’s status (Public, Private, Associative) where the smart collector can be deployed. These two elements were essential to consider because the experimentation seeks to establish a baseline of the recovery process given the uncertainties of participation of the local context and the sensitization to the management of the plastic by the general public.

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| |  | | --- | | (a) Local ecosystem interviewed about the implementation ofa 3D printing recycled demostrator | |  |

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| |  | | --- | | (b) Type of stakeholders for the | |

Figure 2: LOcal ecosystem enquired

A total of 23 actors were interviewed in the period of time of XX-2020 - YY-2022, of which 21 by physical or telephone interview and 2 by electronic questionnaire They were mainly companies (X% small and Y% medium size), associative entities, academic sector. The diversity of the public was an interesting criterion for the study. Participants in the economic, cultural and social dynamics of the district through their membership in the local association of economic actors of the territory.

The scope of activity of most of the respondents is local (at the level of the neighborhood or city) which may reflect a strong territorial anchoring and a commitment to local concerns and issues (waste management, social welfare, local job creation…). The majority of their business decisions are made locally, which reduces the risk of depending on the interests of entities outside the territory.

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| Figure 3: Local ecosystem interviewed about the implementation ofa 3D printing recycled demostrator |

To do this, we identified the role of each actor, then the sources of plastic waste collection, and then identify the sources of 3D printing and potential synergies with LF2L. In order to achieve these results, an exchange with key actors in territorial development was necessary.

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| Figure 4: Acceptability of the possible use of ‘smart collector’ for the |

Thanks to this approach, we have identified eigth collection sites at the local territory for the deployment of the smart collector.