**Deliverables**

* Current situation analysis
* Sensor research paper
* Theory research paper
* Budget request
* prototype application
* back end infrastructure
* front end application
* test application

**Work packages**

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| Measured deliverable | Current situation analysis |
| Availability for the assignment |  |
| Approach statement | Analyze the current garbage collection process |
| Input deliverables | Documentation of the interview with the local government |
| Output deliverables | Documented processes of the garbage collection process in Venlo |

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| Measured deliverable | Sensor research paper |
| Availability for the assignment | 1 week |
| Approach statement | Document the entire sensor research process. From planning to results and conclusion |
| Input deliverables | Budget request, test application |
| Output deliverables | A research report that describes the best sensor technology for this project |

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| Measured deliverable | Theory research paper |
| Availability for the assignment | 1 week |
| Approach statement | Perform and document all the theory research that is required for continuing on with the project |
| Input deliverables | Documentation of the interview with the local government |
| Output deliverables | A research report that |

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| Measured deliverable | Budget request |
| Availability for the assignment | 1 week |
| Approach statement | Make a budget request for the necessary equipment to perform the practical research |
| Input deliverables |  |
| Output deliverables | A budget request has been filed towards the school |

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| Measured deliverable | Prototype application |
| Availability for the assignment | 2 weeks |
| Approach statement | Use all the findings of the research to produce a working prototype application |
| Input deliverables | Theory research, practical research |
| Output deliverables | Prototype application   * measure fill level of a container * communicate with the LORA network |

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| Measured deliverable | Back end infrastructure |
| Availability for the assignment | 2 weeks |
| Approach statement | Build the back-end infrastructure with which the prototype devices can communicate |
| Input deliverables | Prototype devices, documentation |
| Output deliverables | Back end infrastructure   * receives data from the LORA network * Mutates this data * Saves data to a cloud service * Route |

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| Measured deliverable | Front end application |
| Availability for the assignment | 2 weeks |
| Approach statement | Build a prototype web application that retrieves data from the back-end infrastructure, and performs operations on them |
| Input deliverables | Back end infrastructure |
| Output deliverables | Web application   * Dashboard for the local government * Retrieves data from the cloud service * Monitor states of the containers * Display current schedule information |

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| Measured deliverable | Test application |
| Availability for the assignment | 1 week |
| Approach statement | Application to test and collect data from different sensors |
| Input deliverables |  |
| Output deliverables | Test data |