**Project Proposal**: Digital Twin for business process “Water Supply Pipes”

1. **PROJECT OVERVIEW**

**Project Name:**

Digital Twin for business process “Water Supply Pipes”

**Objective:**

Utility Company X wants to examine how a Digital Twin could work for their organization, specifically for the business process “Water Supply Pipes” (see attachment).

Context

Drinking water is transported from Utility Company X’s production facilities to businesses, institutions and around 1.2 million people via kilometres of pipelines. Thanks to good maintenance of the distribution network coupled with timely investment, on average our customers experience just four minutes a year without water due to a supply interruption. The transportation pipelines through which the drinking water is transported from the production facilities to the cities and villages are the arteries of the drinking water system. In total there are 286 kilometres of transportation pipes. Mains pipes are branches of the transport pipeline and are in every street. Finally, to take the drinking water to the consumer, the water meter or mains tap in every house is linked to the mains pipe in the street via a **supply pipe.**

Supply pipes are connected to the main pipeline and run to our customers' water meters. Around 5,500 new connections are laid every year. Usually these connections connect a new building to the drinking water network. Every year we replace around 1,500 connections as they reach the end of their technical lifespan. **We also relocate 250 connections each year, often at the request of consumers.** This business process is called “Water Supply Pipes” (see Attachment 1).

**Key Deliverables:**

* Technical design and development of a Digtal Twin for business process “Water Supply Pipes” (see attachment 1)
* Demo or some kind of visual representation of the Digital Twin so that even a non-technical employee can understand the solution and it’s business value
* Advice (supported by data) on what a Digital Twin could mean for Utility Company X, in terms of:
  + added value (e.g. sustainability, quality, timeliness, first-time right, lead time)
  + requirements needed to realise a Digtal Twin for business process “Water Supply Pipes”

1. **BACKGROUND AND MOTIVATION**

**Problem Statement:**

The acceleration and improvement of Utility Company X’s business proces “Water Supply Pipes” in terms of ‘sustainability’, ‘timeliness’, and ‘quality’ does not meet their objectives.

**Proposed Solution:**

Development of a Digital Twin to further examine whether or not this solution can contribute to processs improvements. e.g. in terms of sustainability, quality and/or timeliness within the process.

1. **TECHNICAL APPROACH**
2. Data Collection & Preprocessing
3. Technical design and development of a Digtal Twin
4. Create a visual represtentation of the created solution

< phase 1: … >

* 1. < insert: key activities phase 1: … >
  2. < insert: key activities phase 1: … >
  3. ….

< phase 2: … >

* 1. < insert: key activities phase 2: … >
  2. < insert: key activities phase 2: … >
  3. ….

< phase 3: … >

* 1. < insert: key activities phase 2: … >
  2. < insert: key activities phase 2: … >
  3. ….

1. **PROJECT TIMELINE AND BUDGET**
2. Phase 1: Data Collection & Preprocessing

* Hours Estimate: < X hours >

1. < phase 1: … ( week X – X ) >

* Hours Estimate: < X hours >

1. < phase 1: … ( week X – X ) >

* Hours Estimate: < X hours >

1. ……

**Total Estimated Hours**: < XX hours >

**5. RISK AND MITIGATION STRATEGIES**

|  |  |
| --- | --- |
| **Risk** | **Mitigation Strategy** |
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|  |  |
|  |  |

**Attachment 1: Process description**

Business process Water Supply Pipes

Afbeelding met tekst, diagram, lijn, Lettertype

Automatisch gegenereerde beschrijving