

DIGITAL TRANSFORMATION AS AN APPROACH TOWARDS A 4.0 WAREHOUSE

Authors:

- **Mauricio Alonso Perez Avila**
- **Jesus Alberto Morales Rico**
- **Lien Neil Tejeda Lopez**
- **Jose Abel Carrasco Mora**



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REFERENCES

Our bibliographic references used in this presentation.

1. Introduction

- **One of the challenges that the fourth industrial revolution has generated is the need to adopt I.T. across all the areas within the organizations.**
- **A successful approach, to most of the organizations, is to adapt a strategy that allows the digital transformation in a solid way.**
- **As mentioned in [1], digital transformation and new innovative approaches have a significant impact on organizations, in the case of warehouses, as stated in [2], the industry is moving towards automation and digitization of these.**

2. Problematic



Low technological capacity v.s. growing and constant demands from projects.



Reduce waste along the process.



Set a roadmap for future projects.



**Do or die.
The industry is moving towards the automation and digitization of warehouses [2]**

3. Methodology

Based on the proposal of Edward Frazelle [3], to improve logistics processes in a Warehouse, based on three phases: Research, Innovate and Implement.



Research

Innovate

Implement



4. Results

Digital transformation as an approach towards a 4.0 warehouse



4.1. Research

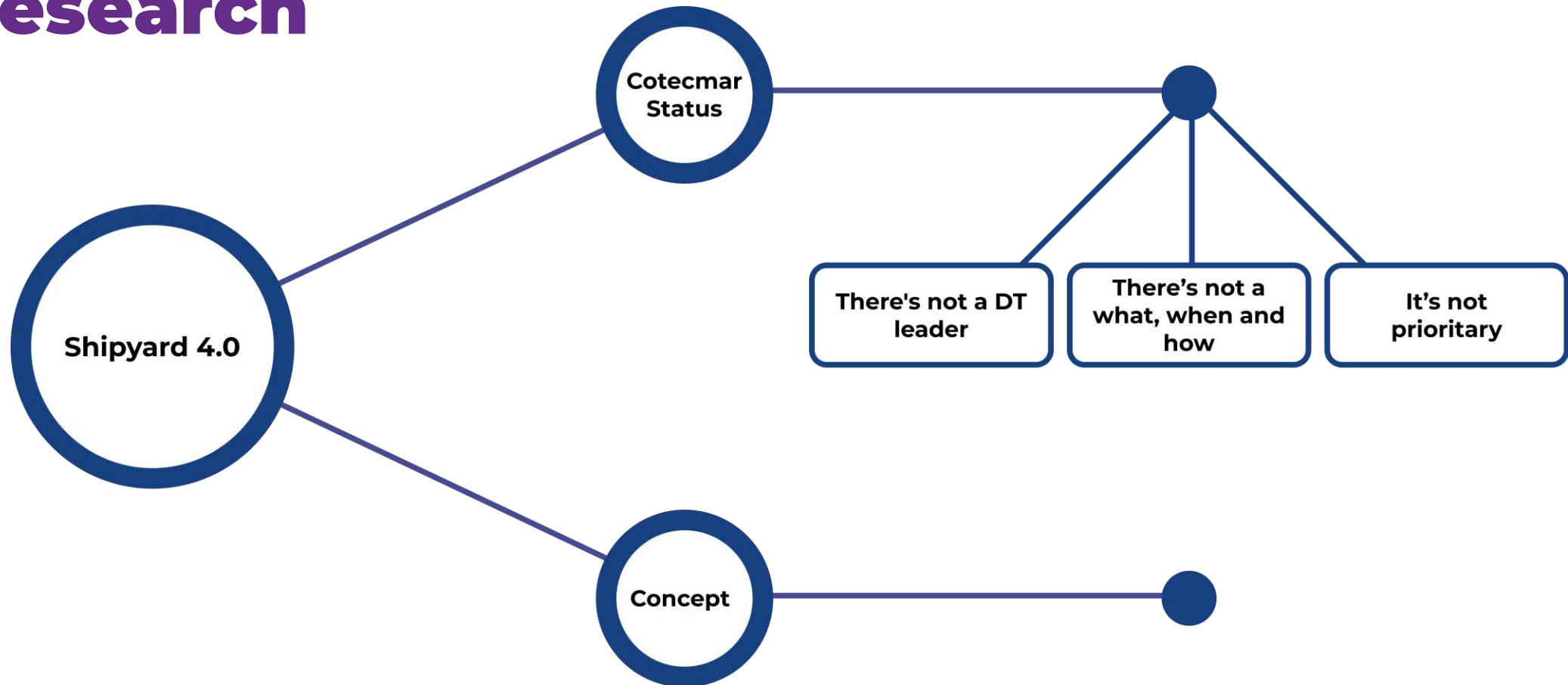
Digital transformation as an approach towards a 4.0 warehouse

Research



First, we investigated about the concepts of Digital Transformation and Digitalization

Research



And we researched about shipyard 4.0 and contrast it with the current situation in Cotecmar.



4.2. Innovate

Digital transformation as an approach towards a 4.0 warehouse

Innovate

To complete the innovation phase, we need to understand the organization: what we do, when and how we do our process.

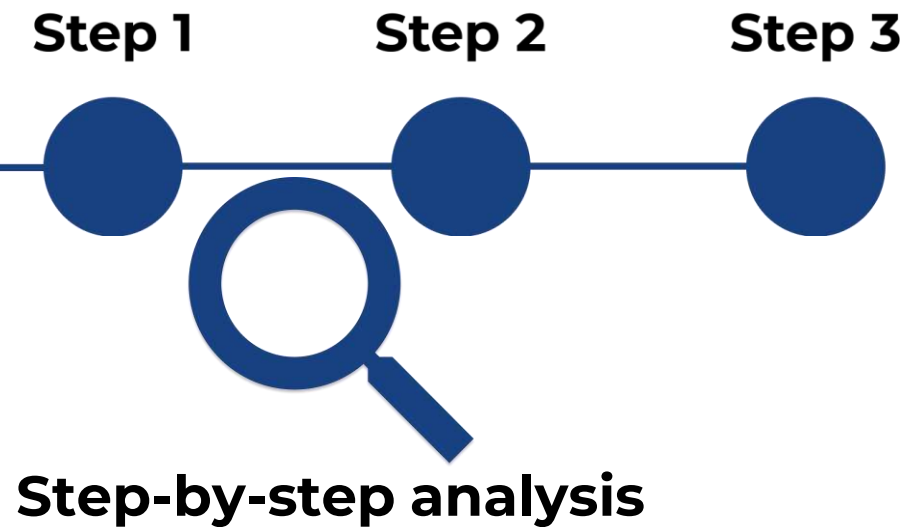
Most important: ¿Why?

Then, we can innovate by introducing new elements to the process.



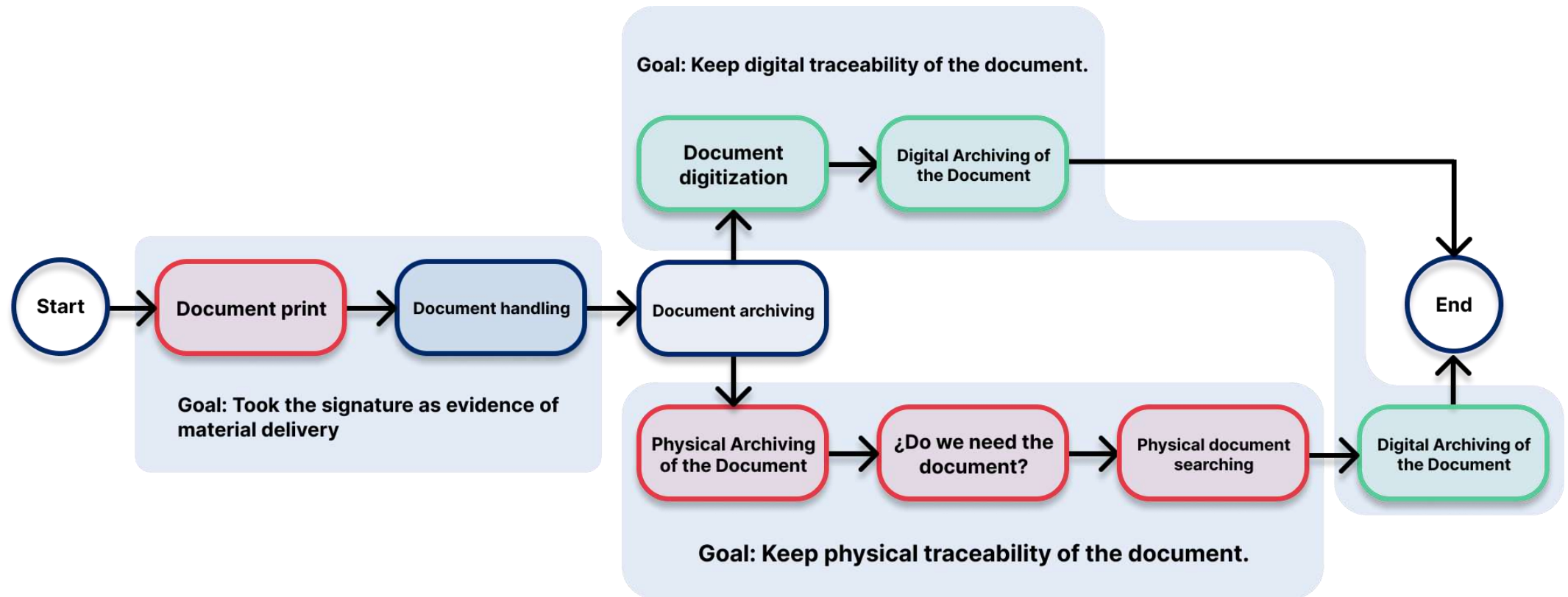
¿What, when, and how?

Innovate



Before introducing enhancements to the process, we need to analyze it, searching for improvements, changes, new steps, and for patterns that troublesome digital transformation.

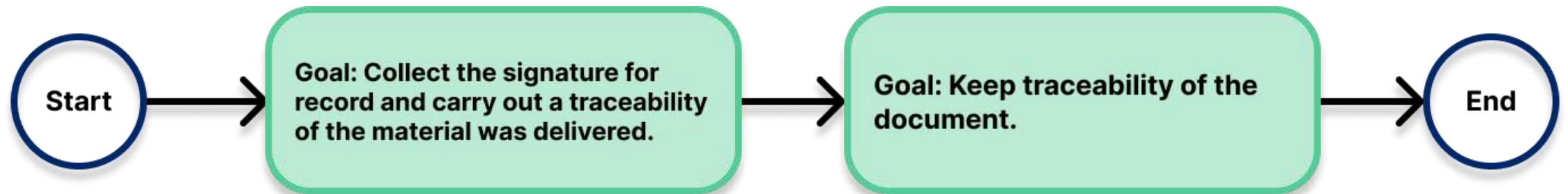
Innovate



We identified a pattern that difficult the digital transformation process.

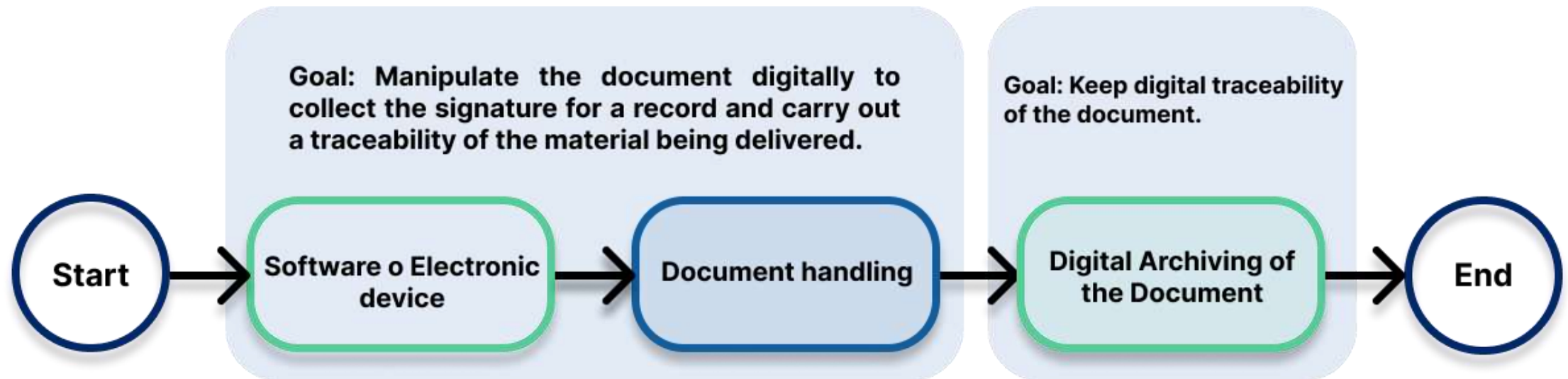
Innovate

¿WHY?



In our research, we found the answer to the ¿why? question.

Innovate



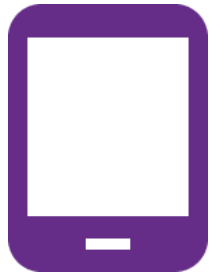
Our proposal its do it in less steps with I.T..

Innovate

1

Tablet

Daily work



1

Interactive board

Meeting room



10

Computers

Daily work



2

PDA

Daily work



2

Routers

Permanent



Finally, we identified our current technological tools.

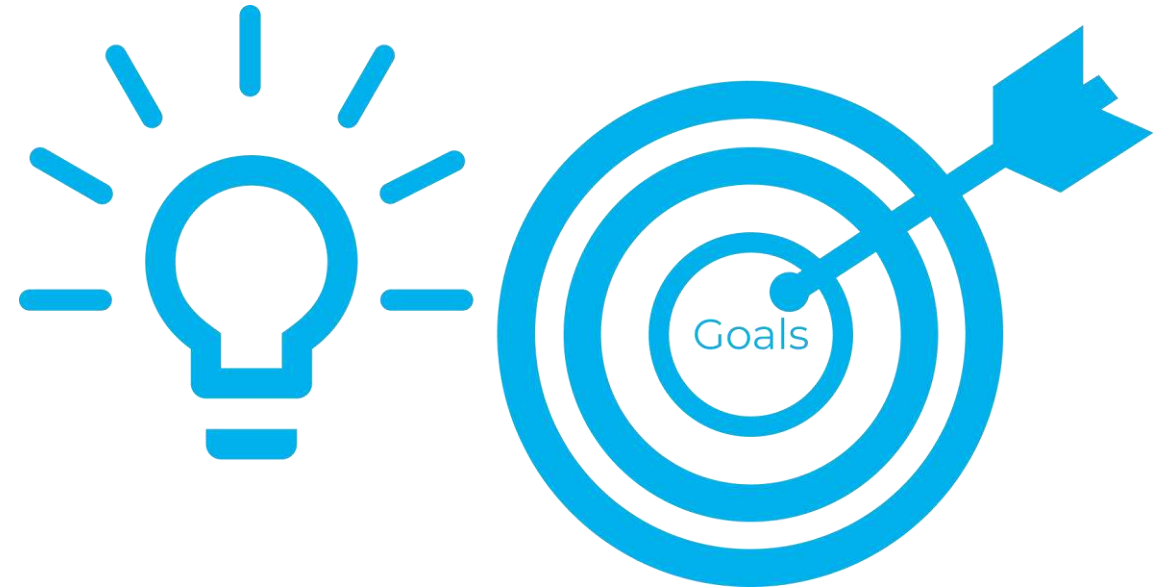


4.3. Implement

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Implement

The main goal of implement phase was know what technologies we can implement initially, know if these technologies synergize well with our activities and find early wins.

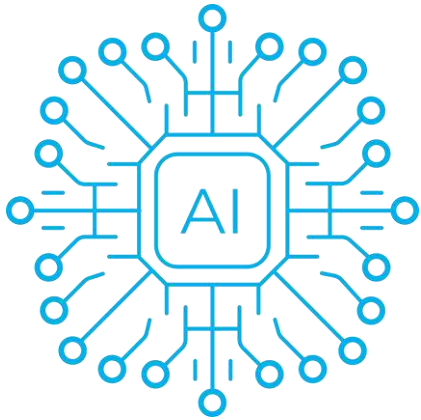


Implement

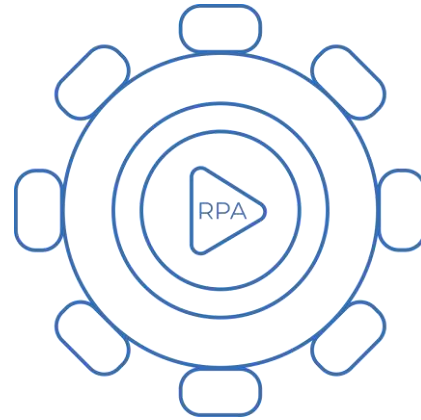


First, in base at the information that we gathered in the second phase, we analyzed all the possibles implementations of the technologies in the industry 4.0 in a Warehouse.

Implement



Artificial
Intelligence



Automation



QR Codes



Digital signing

In base of our research and needs, we can implement this technologies initially.

Implement



Power BI

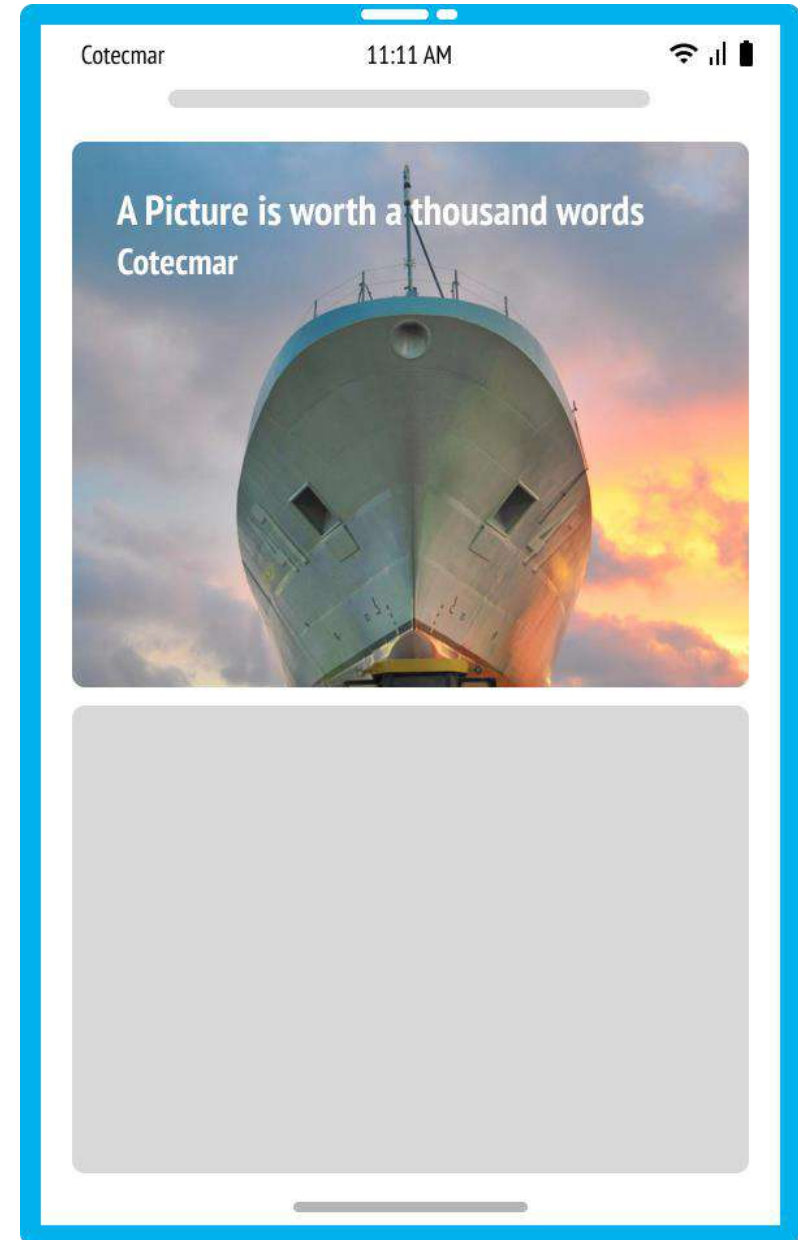


Power Automate


We identified this tools as early wins.

Implement


Also, in the third phase we used mockups, for software ideas that need to be developed, also, this ideas were already raised on paper, but never carried out.



Implement

**CyFinder**

MapaListado de cilindros



Prestados actualmente

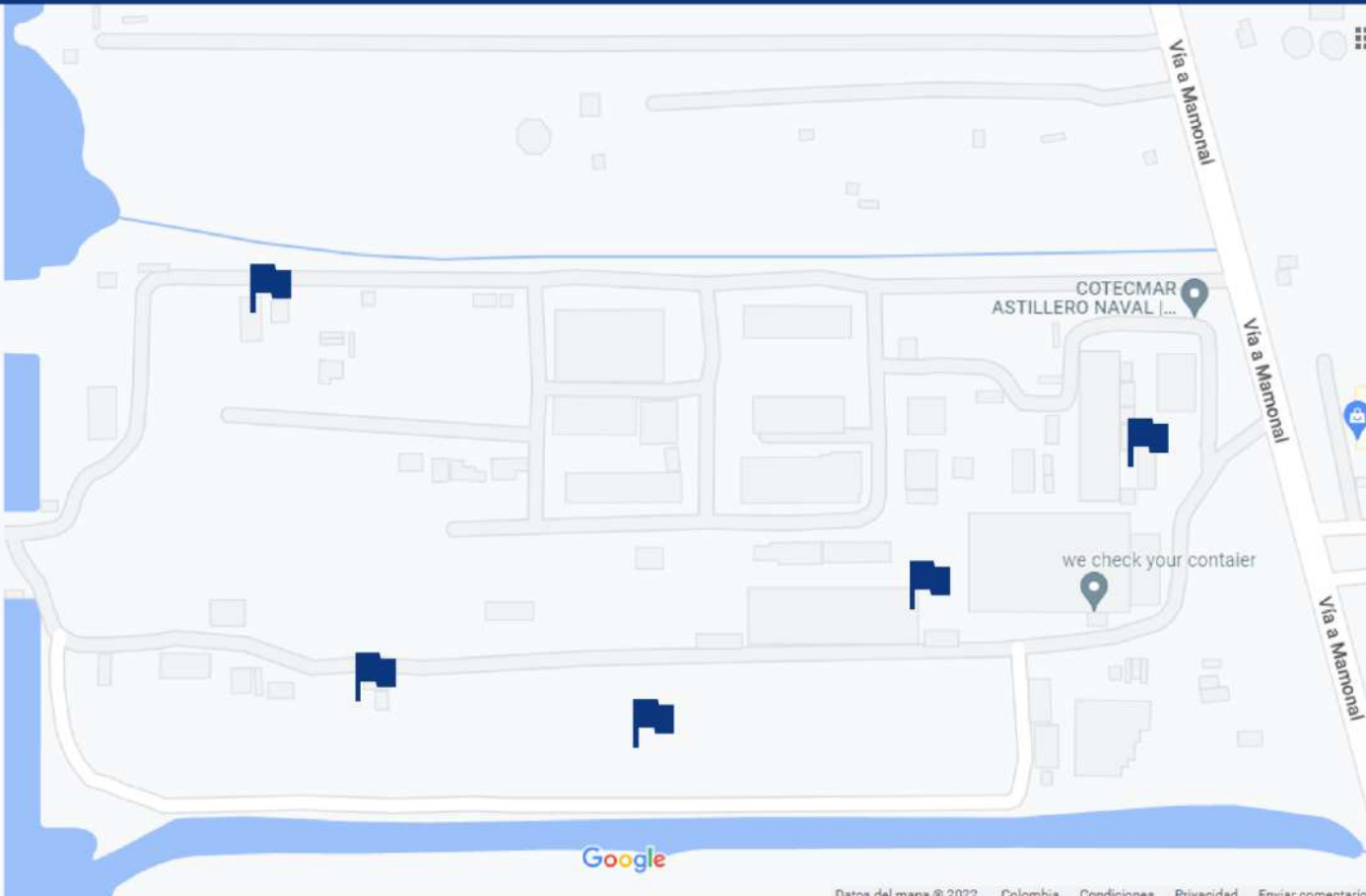
COD SAP: 110009901
Tipo de gas: CO2

COD SAP: 110009902
Tipo de gas: O

COD SAP: 110009903
Tipo de gas: Mezcla

COD SAP: 110009904
Tipo de gas: Argón

COD SAP: 110009905
Tipo de gas: CO2



COTECMAR
ASTILLERO NAVAL [...]

Via a Mamonal

Via a Mamonal


Via a Mamonal

we check your container


Google

Datos del mapa © 2022 Colombia Condiciones Privacidad Enviar comentario

Implement

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TODOS LOS PRODUCTOS SON DE PRUEBA Y PUEDE QUE NO SE RELACIONEN A LA CATEGORÍA




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Estado operacional: Nuevo

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IMAGEN DE PRUEBA

PLATINAS DE HIERRO PURO
Estado operacional: Chatarra

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IMAGEN DE PRUEBA

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Estado operacional: Chatarra

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Estado operacional: Nuevo

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Lotes



5. Conclusions

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Conclusions

- **The method used in this investigation makes it possible to have a clearer view of digital transformation, and digitalization; followed by an analysis of the theory of current procedures and its relevance to the organization.**
- **We will start the digital transformation process in the Warehouse and Distribution Division.**
- **For future projects, we want to improve the implementation part, search for more early wins, and make enhancements to the SAP ERP.**

Bibliographic references

- [1] Seth Earley, “The Digital Transformation: Staying Competitive,” *IT Prof*, vol. 16, no. 2, pp. 58–60, 2014, doi: 10.1109/MTP.2014.24.
- [2] N Laptev et al., “Smarter Warehouse,” in 2022 IEEE 38th International Conference on Data Engineering Workshops (ICDEW), May 2022, pp. 1–8. doi: 10.1109/ICDEW55742.2022.00005.
- [3] Frazelle Edward and Sojo Ricardo, *Logística de almacenamiento y manejo de materiales de clase mundial*. Grupo Editorial Norma, 2006.

Thank You :)



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