ENTERPRISE LOW-CODE AND HYPERAUTOMATION

Unlocking the Future of Digital Transformation

comidor
DIGITAL AUTOMATION PLATFORM

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Introduction

In today's world, organisations are trying to digitally transform their business to remain ahead of the competition and improve productivity. Most of them are aware of the imperative need to re-design their business models. However, in many cases, business experts are not aware of which tools to use and what technologies to leverage. On the other hand, many of them are already implementing advanced technologies like Artificial Intelligence (AI), Machine Learning (ML) and Robotic Process Automation (RPA) to execute specific tasks and processes, and run their business.

Even in those cases, businesses ignore the paramount importance of an enterprise strategy to keep these technologies united and implement them in parallel. Instead of implementing AI, ML or RPA as separated automation solutions, organisations should seek a 'business marriage' of enterprise-grade application development, and intelligent, end-to-end process automation.

In this particular e-book, we will explore the power of Enterprise Low-Code development and the main aspects of Hyperautomation. With a real business case, we will demonstrate how businesses can embrace innovation, digitally transform, and revolutionise their business models by combining Enterprise Low-Code with Hyperautomation.

Enterprise Low-Code

What is Enterprise Low-Code?

Before we dive into all of the reasons why businesses should embrace Enterprise Low-Code, let's first cover some essential terminology.

Enterprise Low-Code is implemented to build enterprise-grade applications and operational systems that serve thousands of users across organisations.

Large organisations develop enterprise applications to build and run critical business processes. These applications can be integrated with cloud services and other applications, thus, creating a broader ecosystem.

Forrester defines Low-Code as "*products and/or cloud services for application development that employs visual, declarative techniques instead of programming*".

In essence, Enterprise Low-Code development enables the production of enterprise-grade applications through a configuration of functions, rather than coding these functions from scratch.

The main features of Enterprise Low-Code development

- **Visual development:** As aforementioned, Enterprise Low-Code application platforms (LCAP) offer a WYSIWYG ("what you see is what you get") environment, where developers and non-developers can use drag-and-drop functionalities to build applications 'on the fly'.

- **Re-usability:** One significant aspect of Enterprise Low-Code platforms is the usage of pre-built components, plug-ins, ready layouts and libraries, and pre-configured modules.

- **Data integration:** One big issue that organisations face is that data is available from disparate databases and systems. Enterprise Low-Code platforms enable integration with multiple data sources. What's more, some platforms allow developers to design data models and embed business logic directly inside the applications.

- **Application lifecycle management:** Going beyond the requirements of eliminating a thousand lines of traditional coding, Low-Code development accelerates the application delivery. This happens mainly because of the ability to immediately deploy an application without DevOps. All the stages of the application development lifecycle, like the development, deployment, monitoring, maintenance, and update of applications are all performed in a single point, in real-time, ensuring security, compliance, and version control.

Enterprise Low-Code Uses

Enterprise Low-Code development enables the production of various types of applications for different cases across any industry. On top of that, the solutions created using Low-Code development can be tailor-made to address real-life business problems.

The following table presents some examples of applications that you can create with Enterprise Low-Code.

Type	Definition	Use cases - examples
process-enabled	a process-enabled application automates manual or paper-based processes to increase the efficiency of operations	meeting room booking, HR on boarding, supply-chain management, invoice processing, order management
data-centric	applications that handle a vast amount of information and provide one single source of truth	internal rules and regulations, report applications, auditing and monitoring, lead management
AI-enabled	applications that automate complicated processes with AI and ML	asset grading, loan request processing, medicine tracking, customer support
UI / UX focused	applications that offer an ultimate user-friendly experience to the end-user	customer portal, student portal, self-service administration, agent/broker portals, legacy system migration

Enterprise Low-Code Benefits

*By 2024, **75% of large organisations** will be investing in more than four Low-Code development tools for both IT application development and citizen development initiatives, according to **Gartner's** annual report "Top 10 Technology Trends for 2020".*

Before Enterprise Low-Code, businesses were using long spreadsheets, resulting in inefficient collaboration among team members, difficulty in finding, sharing, and updating crucial information, as well as delays and errors in workflow tasks.

Let's see how organisations benefit here and now, from Enterprise Low-Code.

1

Democratisation of app delivery
Low-Code breaks the traditional silos of business and IT. It enables close collaboration between the IT department and employees with minimum technical knowledge, to deliver their own applications.

2

Faster app development
According to **Forrester**, with Enterprise Low-Code platforms, organisations can build new apps 6 to 20 times faster. These platforms streamline and accelerate the app development, thanks to less manual effort being required, thus achieving a substantial reduction in the IT projects backlog.

3

Cost reduction
With Enterprise Low-Code, fewer resources and time are needed to build apps of high quality. On top of that, existing resources can be reused many times without any issue, thanks to pre-built functionalities.

4

Flexibility and innovation
On the other hand, customers need flexibility. Enterprise Low-Code platforms offer flexibility and innovation as they leave room for improvement and scalability.

Hyperautomation

What is Hyperautomation?

Automation has become a top priority in the digital transformation strategy for almost all organisations. Every organisation has multiple complicated processes and requires a vast amount of human resources and digital tools. The new breed of automation solutions provides the opportunity to organisations, to address their challenges with any automation technology needed.

Leading vendors now offer various automation solutions for every challenge an organisation may face. From using RPA to automate time-consuming repetitive tasks to using BPM and Cognitive Automation with AI/ML – to automate demanding processes and drive decision-making.

Today, humans don't have to be involved in all the automation stages. Bots and algorithms can be taught how to execute things alone. This allows humans to focus on knowledge-based, value-added tasks.

This holistic approach is what is called Hyperautomation.

Gartner has named Hyperautomation as the top trend according to the list of the "Top 10 Strategic Technology Trends for 2020".

*According to **Gartner**, Hyperautomation is a state in which organisations use a range of tools and technologies to instantly detect and automate all critical business processes.*

Hyperautomation combines all the following advanced technologies into one single umbrella term:

- BPM (Business Process Management) that enables process modelling and dynamic orchestration
- RPA (Robotic Process Automation) that enables the automation of repetitive manual tasks
- AI/ML (Artificial Intelligence and Machine Learning), a layer that adds intelligence to the process automation

As the digital demands are increasing, many leading businesses are forced to move up roadmaps for an automation journey. Based on **Deloitte's** survey it was found that:

"organisations are not only adopting RPA, but are moving beyond by seeking to deploy intelligent automation solutions"

"58% of surveyed executives report they have started their intelligent automation journey"

"47% of organisations have already combined RPA and AI as part of their intelligent automation strategy"

Future predictions show that there is still a lot of low-hanging fruit in enterprises, waiting to be automated. **Gartner** estimates:

*"By **2020**, application integrations delivered with Robotic Process Automation (RPA) will grow **by 40% year over year**",*

*"by **2023**, organisations will lower operational costs by **30%** by combining Hyperautomation technologies with redesigned operational processes".*

Hyperautomation Key Components

BPM: Where It All Began

In short, BPM includes the different ways a business creates and analyses all of their processes. BPM offers businesses not only the theoretical background but the methodologies and the software components to enable them to successfully respond to their challenges.

The RPA Breakthrough

RPA is positioned as a new -additional- approach to performing business process management with automating manual, repetitive tasks. BPM and RPA can work together in harmony bringing much greater process automation. This powerful combination significantly increases the productivity and efficiency of an organisation.

The Intelligent Automation Future

With the renaissance of RPA, came Intelligent Automation. In simple terms, to intelligently automate means to enhance BPM and RPA with AI and ML. In the highest stage of automation, these algorithms learn by themselves and with their own interactions. In that way, they empower businesses to achieve Autonomous Process Optimisation. They can identify inefficiencies and predict changes, risks or opportunities.

The table below presents the full suite of Hyperautomation technologies.

Technology	Definition	How it works	Use cases - examples
Business Process Management (BPM)	a business process management platform is a software solution that helps businesses to manage and automate business processes to improve productivity and corporate performance. It is considered a critical component of operational intelligence as it bridges the gap between IT and business	skilled business people perform complex process modelling and the execution is based on BPMN 2.0 or flowchart diagrams and detailed business rules	expense reporting, customer requests and service orders, compliance management
Robotic Process Automation (RPA)	RPA is a software or technology that replicates human actions, interacting within a computer environment to perform a variety of everyday work tasks. RPA uses screen scraping and other technologies to create specialised agents that can automate repetitive tasks	a computer works as an agent that emulates and integrates the actions of a human, interacting within a platform to perform a variety of repetitive tasks	invoice processing, payroll, HR information processing
Artificial Intelligence (AI)- Machine Learning (ML)	technologies that are ideal in complicated situations where huge data volumes are involved and humans need to make decisions. AI/ML-enabled systems are capable of performing complex tasks that require extensive human thinking and activities	algorithms, using historical process transactional data, are trained to optimise and automate existing processes	analytics and reporting, risk management, decision-making, investment predictions

Hyperautomation Benefits

Better team and employees-bots collaboration

Improved visibility over the processes

360° business overview with advanced real-time analytics

Greater productivity

Risk minimisation, control maintenance, and compliance

Control of the entire lifecycle of automation from modelling to monitoring

Taking Digital Transformation to the next level with Enterprise Low-Code and Hyperautomation

Build with Speed, Automate with Intelligence

One of the principal aspects of digital transformation is speed.

Enterprise Low-Code solutions automate a significant percentage of the development process, providing 12x faster app delivery. This is achieved thanks to their visual, drag-and-drop environment with pre-built, and reusable components.

However, achieving a successful digital transformation is a multi-stage journey that requires a broad spectrum of new methodologies and technologies.

Hyperautomation constitutes a valuable contribution to organisations, since it brings together various technologies like BPM, RPA, and AI/ML and unlocks a wide range of opportunities for organisations to efficiently automate, monitor, and streamline critical business processes.

While Hyperautomation technologies automate and optimise business processes from start to finish, Enterprise Low-Code can significantly accelerate the digital automation journey by minimising the time it takes to maintain, upgrade, and enhance all the implemented technologies.

Low-Code and Hyperautomation Market Size Forecast (2017-2027)
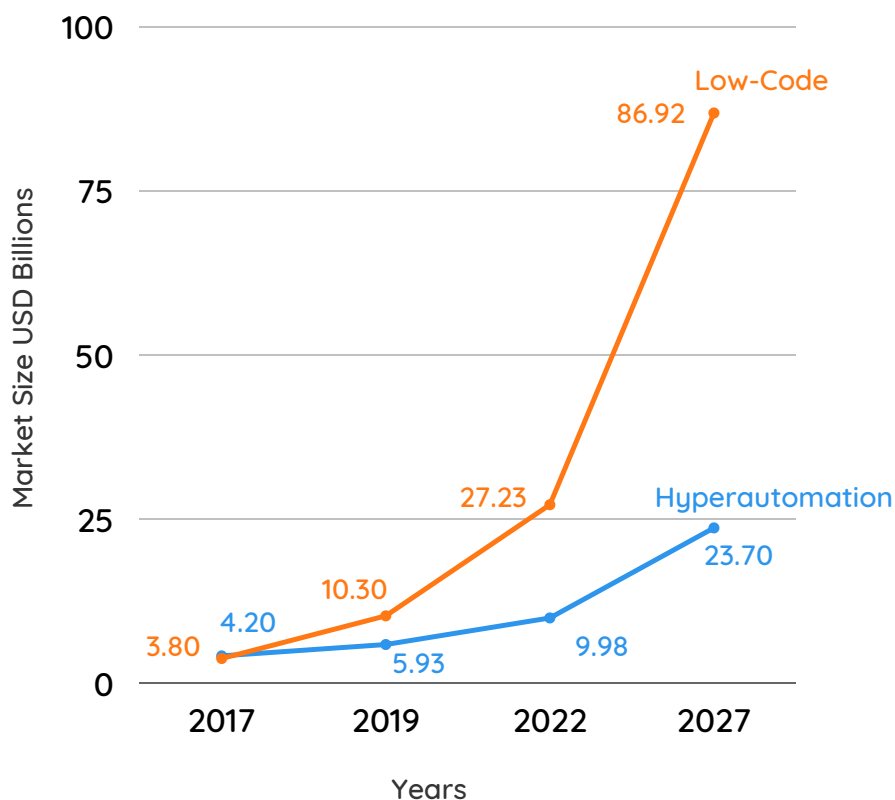
Sources: *CMI, Forrester, MarketsandMarkets, Grand View Research*

Both markets are expected to witness a remarkable enlargement expansion in the years that follow.

Based on the graph, the Low-Code development market is growing way faster than the Hyperautomation market. Emphasis should be placed on the rapid growth of the Low-Code market during 2022-2027.

The market size for Hyperautomation is anticipated to reach **USD 23.7 billion by 2027**, while the Low-Code market size is estimated to reach **USD 86.92 billion by 2027**, almost four times the size of the Hyperautomation market.

Other facts and predictions worth mentioning:

*Regarding the Hyperautomation's market share in 2018, **the RPA segment accounted for 31.2%** of the total market share. However, in the upcoming years, **Machine Learning** is expected to be the fastest growing segment.*

*The **BFSI** (Banking, Financial Services, and Insurance) industry is expected to hold the **highest share in the Low-Code development market**. On the other hand, the **Manufacturing** industry is the sector with the highest adoption of **Hyperautomation technologies**.*

Taking all the above into consideration, a unified Digital Automation Platform (DAP) - a platform that combines Enterprise Low-Code and Hyperautomation technologies- is the most flexible option on the market for businesses that are moving towards digital transformation. These platforms leverage technologies like Enterprise Low-Code, BPM, RPA, and AI/ML and offer end-to-end, intelligent automation in a relatively short period and with little to no coding.

Taking Digital Transformation to the next level

Finding the right recipe where Enterprise Low-Code, BPM, RPA, and AI/ML work as one, is a fundamental step and works as a basis for taking digital transformation to the next level. The way to achieve this is to understand the importance of evolving humans and machines to work together towards digital transformation.

> *The rapid evolution of robotic and intelligent automation is not only creating challenges, but also opportunities for the future workspace.*
>
> *Robotic technologies, like RPA and ML, combined with human-centric technologies, such as Enterprise Low-Code and Enterprise Architecture, revolutionise work, while at the same time enable business professionals to design better organisations and work faster and smarter.*

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CEO at Comidor

The digital transformation is not just a technology. It is an intersection of people, processes, data, and technology that are an organisation's most important assets. For organisations to operate and deliver the results they seek, people, data, technology, and processes must be individually "healthy", as well as working in harmony.
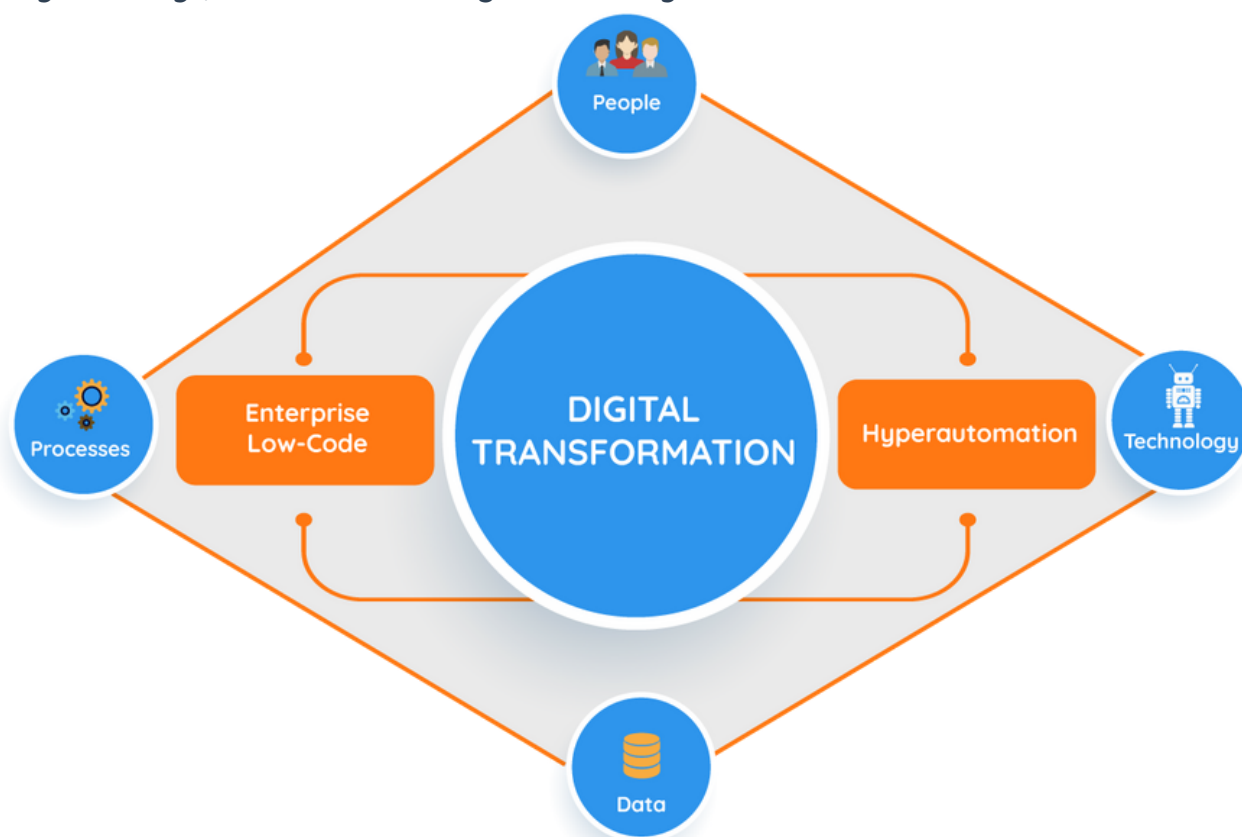
Combining people, processes, technology, and data

People are the source of the ideas and the "engines" of critical thinking. As organisations embrace digital transformation, an approach of understanding the human capabilities, knowledge, and expertise level should be applied. At the same time, organisations should take into consideration customers' and stakeholders' expectations and needs.
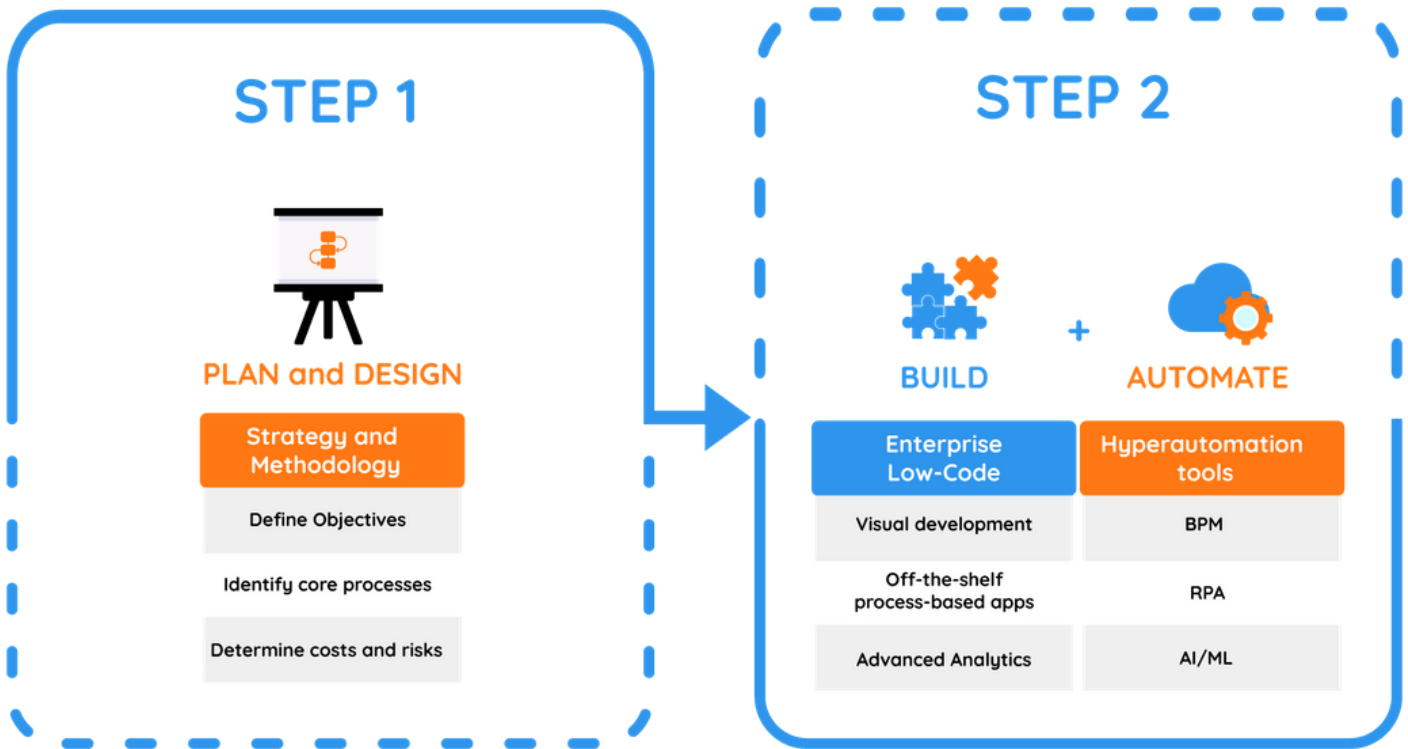
Business processes are the foundation of every organisation as they determine the way a business runs. As organisations evolve, processes evolve, too.

Increasingly, organisations rely on **data**. Data enables people and processes to work together providing real-time and historical indications of what activities are taking place and how well they are performing.

Technology adoption can lead to the elimination of human activities, increased output, and reduced costs. Emerging advanced technologies such as Enterprise Low-Code, AI, and ML accelerate digital transformation, while foundational technologies like BPM are needed to process and analyse the huge amounts of data.

The Key Implementation Steps

Organisations must look beyond individual solutions and focus on achieving end-to-end automation and agile digital transformation with advanced technologies that work in concert.

STEP 1

PLAN and DESIGN

| Strategy and Methodology |
| Define Objectives |
| Identify core processes |
| Determine costs and risks |

STEP 2

BUILD + AUTOMATE

Enterprise Low-Code	Hyperautomation tools
Visual development	BPM
Off-the-shelf process-based apps	RPA
Advanced Analytics	AI/ML

The planning and design phase is considered to be one of the most vital activities since it encompasses the organisation's entire scope of digital transformation:

1

Plan and Design

First of all, it is crucial to plan the digital transformation journey. The objectives and goals of this initiative must be put in place at the beginning. The design process is a series of steps that organisations need to follow to model the core processes and track what tasks are actually performed. While having the processes in place, the best practice is to discover tasks and procedures that need to be optimised and identify common bottlenecks. Costs and risks play a significant role as well. Therefore, it is equally important to determine them at the beginning.

After businesses have carefully planned their automation project, they will be ready to start the implementation phase.

2

Build and Automate

Successfully combining the Enterprise Low-Code with BPM, RPA, and AI/ML is all-important. While automation is about optimising a task or making a process intelligent, Enterprise Low-Code speeds up the automation roadmap to a great extent. Visual development, drag-and-drop components and fields enable the business users to build, deploy, automate, and monitor processes on their own.

Low-Code and Hyperautomation in Action

In the example below, we will demonstrate how a holistic approach with Enterprise Low-Code and Hyperautomation technologies can effectively be applied to the Energy sector for asset grading.
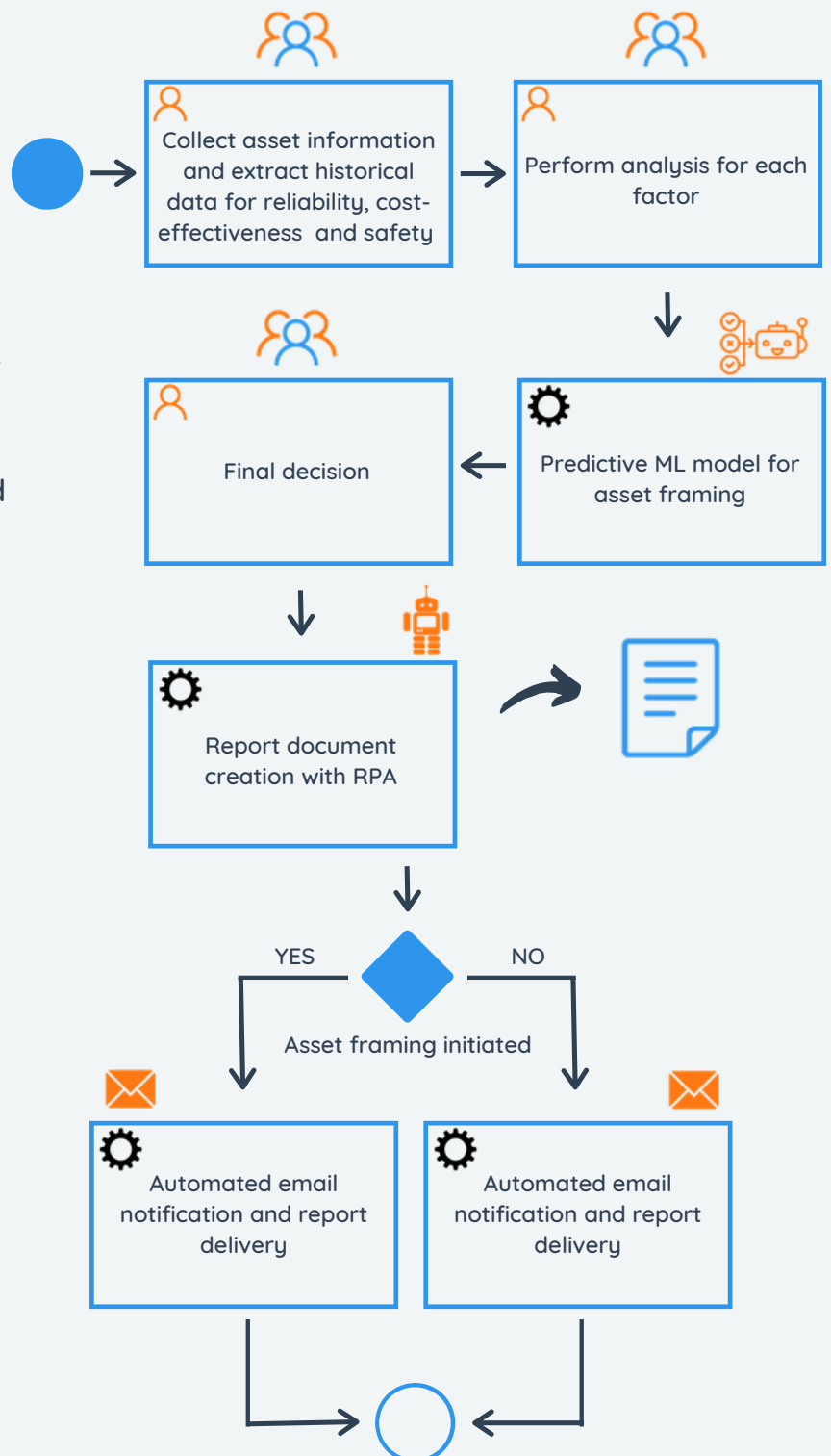
Enterprise Low-Code + Hyperautomation for Asset Grading in the Energy Sector

The Business Problem

Asset evaluation in the oil and gas industry is growing in complexity due to many factors like reliability, safety, and cost-effectiveness that must be analysed with accuracy before proceeding to asset framing.
The purpose of this process is to create a system for proper evaluation, that:

- assists the decision-making with a supportive ML model that is trained with historical data
- minimises the time that analysts spend gathering, selecting, and visualising data
- provides deeper insights into the actual value of the oil and gas assets

The Automation Solution

1. Development of two Enterprise **Low-Code apps** used to create asset records and initiate the process evaluation

2. An advanced workflow with:

- An **RPA** component that creates a reporting document with diagrams and real workflow data
- A **supportive ML** model that assists the decision-making
- **Automated emails** that are sent to responsible users

Collect asset information and extract historical data for reliability, cost-effectiveness and safety → Perform analysis for each factor → Predictive ML model for asset framing → Final decision → Report document creation with RPA → Asset framing initiated (YES / NO) → Automated email notification and report delivery

Conclusion

To excel in the new demanding business world, the key for companies to remain competitive is to anticipate new expectations and to be able to adapt to change. To achieve this, organisations need to embrace a comprehensive digital transformation methodology that integrates advanced technologies, people, and data.

Organisations should understand that one technology and multiple stand-alone tools cannot solve all the business challenges. By adopting a unified platform, organisations can achieve an end-to-end digital transformation, beat demanding challenges, and fully optimise any given process through Enterprise Low-Code development and Hyperautomation technologies.
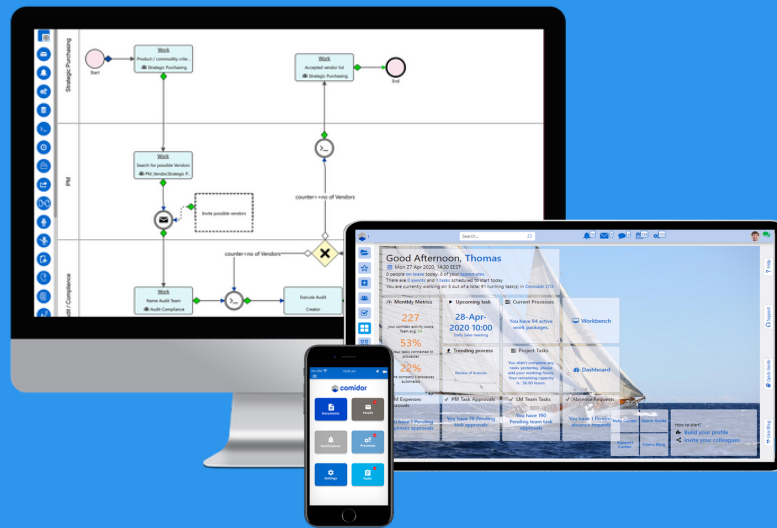
Bringing Enterprise Low-Code and Hyperautomation together and understanding how to fully leverage them constitutes a powerful weapon for taking digital transformation to the next level

![comidor logo]

Comidor Digital Automation Platform

Transforming work and business

About Comidor

Comidor brings a new approach to digital transformation, by harnessing the power of Low-Code, BPM, RPA & AI to build enterprise-grade applications and automate end-to-end business processes.

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