CASE STUDY

CAV Robotics comprehensively manages its industrial robotics projects with ITM Platform

Industrial Robotics Integrators, OEMs, and Intralogistics Solution Experts

CAV Robotics manufactures and integrates industrial robots specialized in the end of the production line, mainly at the packaging and palletizing areas. Its primary market is Colombia, which aims to expand to other Latin American countries in the medium term.

After the first ten years, CAV Robotics has developed its business vision, going beyond the traditional scope and creating partnerships with new customers focused on e-commerce sales.

Due to the global increase in demand, CAV Robotics' customers are facing new challenges related to mobile robotics in their distribution centers.

ITM Platform
PROJECTS • PROGRAMS • PORTFOLIO

- More than 15 years of experience, more than 50 robots installed, and more than 250 million products packed and palletized
- KUKA Official System Gold Partner
- More than 60% of the installed industrial robots in the Colombian market
- First Colombian company to export robotic cells
- Established alliances in Ecuador, Peru, Mexico, and Central America for customer service
- Member of the exclusive R.O.I. Group of the Swiss manufacturer INTERROLL
- Machinery manufacturer recognized and supported by brands such as Allen Bradley, Siemens, and FESTO
- Innovative robotic intralogistics solutions to automate distribution centers with new technologies such as mobile robotics.

End-of-Line Projects

End-of-Line Projects consist of palletizing packaging and distribution center automation projects.

These projects require mechanical development, executed by a team responsible for manufacturing and implementing integrated solutions that include chassis, drivers, industrial robots, automation, and software programming. Its typical duration is six months to a year.

Initial challenge: economic and labor control

During the first years of operation, project management was carried out with non-specialized support tools. At this point, CAV Robotics planned without a chronogram, shared information via e-mail, and used a non-PM tool to integrate information.

In 2017, the need for more effective project management became palpable with an increasing number of projects, an established working group, and a higher annual turnover.

The main objective was **to coordinate cost and time management**, for which CAV Robotics decided to use **ITM Platform** to manage all areas of the projects that until then were not adequately monitored until then.

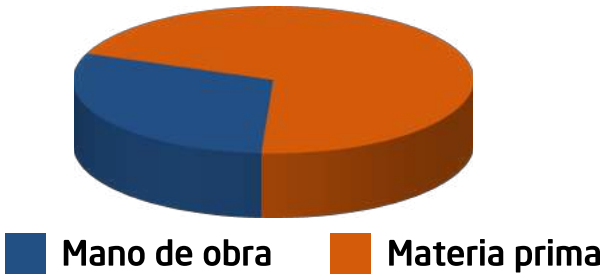
ITM Platform is a tool that helps us to look at how we are doing and take action. Without it, it would be very complicated

Daniel Díaz
CEO CAV Robotics

Control of internal and external hours using standard costs

Intralogistics projects are both person-hour and procurement intensive, so planning and controlling cost execution is critical to project profitability.

A typical project comprises 70% raw material (robot, PLC, sensors, and other materials) and 30% labor (design, assembly, programming, and commissioning).



CAV Robotics manages with **ITM Platform** the standard costs of internal personnel and the hours of external suppliers through tariffs, thus offering the possibility to choose the most efficient suppliers for each project.

Thanks to this system, CAV Robotics has improved its cost planning and control of the actual execution.

Leadership Organization

The company has a project coordination leader who assigns responsibilities to each team member. It is in charge of managing the PPM tool, ensuring that schedules are on track and budgets are followed and monitored on an ongoing basis.

There are four area leaders: Mechanical, Design, Assembly, and Automation and Programming. These leaders coordinate the technical staff in the various stages of the project, which typically follow a standardized sequence.

The Project Coordination Leader manages the client communication and coordination, supported by the technical leaders according to their areas of responsibility.

Cost History

Although CAV Robotics' products and projects have similarities, each customer and project is unique. Each offer and quotation requires analysis, usually based on past project experience.

With the historical financial information of projects, CAV analyzes calculated and actual costs, which the bidding department uses to make realistic proposals.

Thanks to past project performance history, CAV Robotics can learn from past experiences and make adaptations to the particularities of new projects, resulting in more accurate forecasts and minor deviations at the end of each project.

> What caught my attention about ITM Platform is the ability to bring together human resources and material costs, keeping it all linked to the schedule
>
> **Oscar Obando**
> Project Coordination Leader

> The main advantage of **ITM Platform** is to combine cost management with time management

Cost Control

Cost control is performed on raw materials, equipment, and labor, monitoring and controlling the offers received from suppliers in terms of materials and labor.

The Purchasing Department updates the purchases made for each budget item in real time.

Periodically, a project committee reviews costs and earned value metrics, considering the progress and proposed objectives regarding labor expenses and final project costs.

Revenue Control

CAV Robotics manages revenue planning and tracking through ITM Platform. Typically, there are three to five payment phases linked to project milestones, sometimes occurring in a currency other than the national currency.

The Project Coordination Leader then prepares an estimate of the total revenue amount considering the currency exchange rate, identifies the milestone payment date in the schedule, and links it to the total amount, thus configuringthe revenue schedule.

Cash Flow

ITM Platform keeps complete cash flow control. Having income and expenses linked to milestones in the project schedule lets you know when the corresponding receipts and payments will be made.

At the company level, the cash flow of all projects aggregate and is displayed numerically and graphically, resulting in the financial-economic scorecard of the entire project portfolio.

In addition, CAV Robotics plans to use ITM Platform to understand and improve its cash flow going forward, mapping projects and their specific milestones to get a global view through reports and dashboards.

Resource Planning

Project coordination starts with selling the logistics solution to the client. From there, CAV schedules activities and assigns them to the corresponding engineering areas.

Then, the Project Coordination Leader creates an estimate of hours and schedules weekly follow-ups with the area leaders, whose teams record the tasks' progress. Finally, actual and expected progress generate current and potential project deviations.

Likewise, the key tasks to success are analyzed with special care. The technicians provide detailed planning while the project coordination leader performs overall task planning and execution control.

This system provides a general overview and a detailed project's progress, enabling early detection of potential resource overlaps or underutilization.

Earned Value tool

CAV Robotics extensively uses the Earned Value tool to evaluate a project's performance against schedule and budget, obtaining forward-looking predictions based on the business-as-usual, absolute-correction, and budget-as-go-forward scenario predictions.

With this tool, it is possible to answer the question, "Where will we get to if we continue at the same performance?

CAV Robotics Product Showcase

Relationship with ITM Platform

Whenever CAV Robotics has contacted ITM Platform to resolve questions or issues, they have received a quick and efficient response.

In addition, in the continuous training provided by ITM Platform, CAV Robotics personnel find all the support they need to learn and improve their project management skills.

In addition,, in 2020, a complicated year for many businesses, communication between both companies was constant, which made it possible to adapt contracts to CAV Robotics' specific needs at the time. Such flexibility is highly valued since it encourages to continue working together, even in difficult times.

Future Plans

CAV Robotics wants to improve resource management further and work on reducing inefficiencies resulting from overlapping personnel.

They are also considering incorporating risk and issue management of future and present situations that may affect projects.

> We are aware that ITM Platform is a tool that, although it already benefits us considerably, still offers a lot of room for growth

With ITM Platform, the opportunities for further evolution are ample over time.

Benefits and Results

Comprehensive management of business projects.

A global view of the project portfolio, including profit margin alerts by project.

Real-time project status monitoring, in all its dimensions.

Transparency, providing the organization with timely and accurate management information.

Control project's actual costs, including hours and acquisitions.

Reduction in the deviation of purchase budgets: It went down from 10% to 15%, which used to remain undetected until the project's end, to just 4%.

Historical project performance information used as feedback for future projects regarding price quotes, equipment and labor costs, company profitability, and potential execution improvements.

Reduction of the deviation from the estimated effort, which could easily reach 100% in the past, to only 30%, with prospects for further reduction.

CAV ROBOTICS