

Artos Scenario

Status Report

Version 3.0 - January 2021

This document contains contextual information for the project that you will manage in the software simulation.

Your mission

Have your project accepted by the Project Selection Committee (PSC).

1. Your position in the company

Artos Inc. is a multinational company engaged in the construction and sales of machine tools. You have been working for several years as a project manager inside the unit “Transversal Projects” (c.f. § 2.2 Organization), itself a division of the “Research and Development (R&D)” department.

These last years you have been active on projects that lasted from a few months to two years, with budgets ranging from 50'000 to 1'000'000 €. Project teams could vary from 2 to 15 persons. As a project manager you have to safeguard employment of your colleagues inside the unit. It is therefore vital to have a certain number of project proposals accepted each year.

Each month, internal project proposals are presented to Artos' Project Selection Committee (PSC), which selects the most interesting projects depending on their compliance with corporate strategy and on other factors such as planned costs, duration, risks and anticipated returns.

This year, the number of accepted projects of the “Transversal Projects” unit is still quite low. Therefore, it is imperative that you acquire funding for some new projects. Moreover, discussions have arisen on the usefulness of the “Transversal Projects” unit. Completing an outstanding project would put an end to these discussions.

M. Dupuis, director of the R&D department, as well as M. Martin, your immediate supervisor, are counting on you!

2. The company

2.1. History

Artos Inc. was founded in 1951 by M. Artos in order to develop machines for the small and medium enterprises of the region. In those days, its activities focused on the production of crafted machine tools for milling and turning of metal parts. Then the company grew and soon covered the entire range of machine tools for metalworking: machining centers, drills, sharpeners, gear cutters, etc.

As of 1980, Artos had to adapt to the advent of electronics and finally of computers. Machines became increasingly automated and efficient, with their complexity increasing together with performance. This development also boosted the number of professions needed for their design, production and maintenance. While the first machines were still electro-mechanical, the development of today's machines calls for an interaction of designers and specialists in the fields of mechanical engineering, electricity, microengineering and computers.

Currently, Artos Inc. is one out of three world market leaders in the machine tool industry.



Figure 1 : Example of a machine tool developed by Artos

2.2. Present situation

In a nutshell

All in all, Artos Inc. developed well over the last few years, with revenue and benefits growing steadily. However, competition is getting stiffer.

The following figures show the results over the last three years:

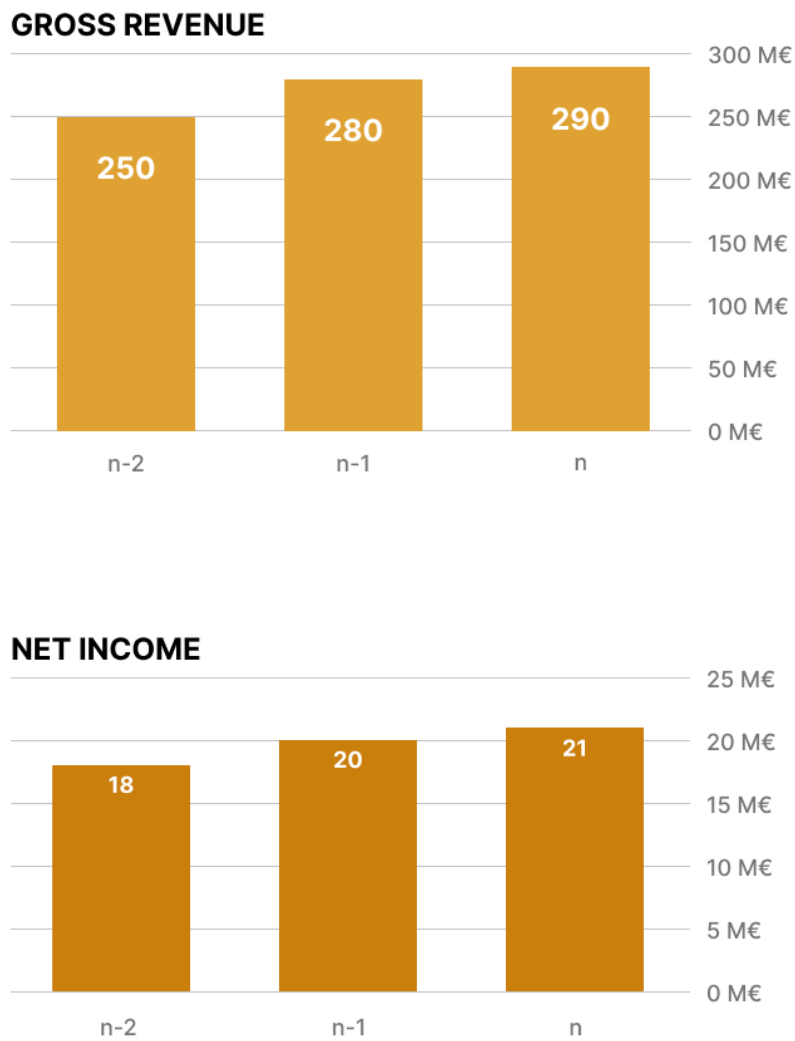


Figure 2: Artos in a nutshell

Markets

The customer base of Artos Inc. entirely consists of industrial companies. Indeed, Artos machine tools are large production machines with a high procurement price ranging from several thousands to up to two millions €. Some of the machines are mass-produced while others are tailored to specific needs.

Most commonly, a client will possess several Artos machines, which can be combined to work together. Clients normally show high brand loyalty, but when they change, it's hard to get them back.

Today, Artos Inc. is active all over the world. Its sales and support network is organized by regions:

- Artos Europe
- Artos Americas
- Artos Asia & Oceania
- Artos Africa

This allows for closeness with the customer, his language and culture, and is a source of competitive advantage for Artos.

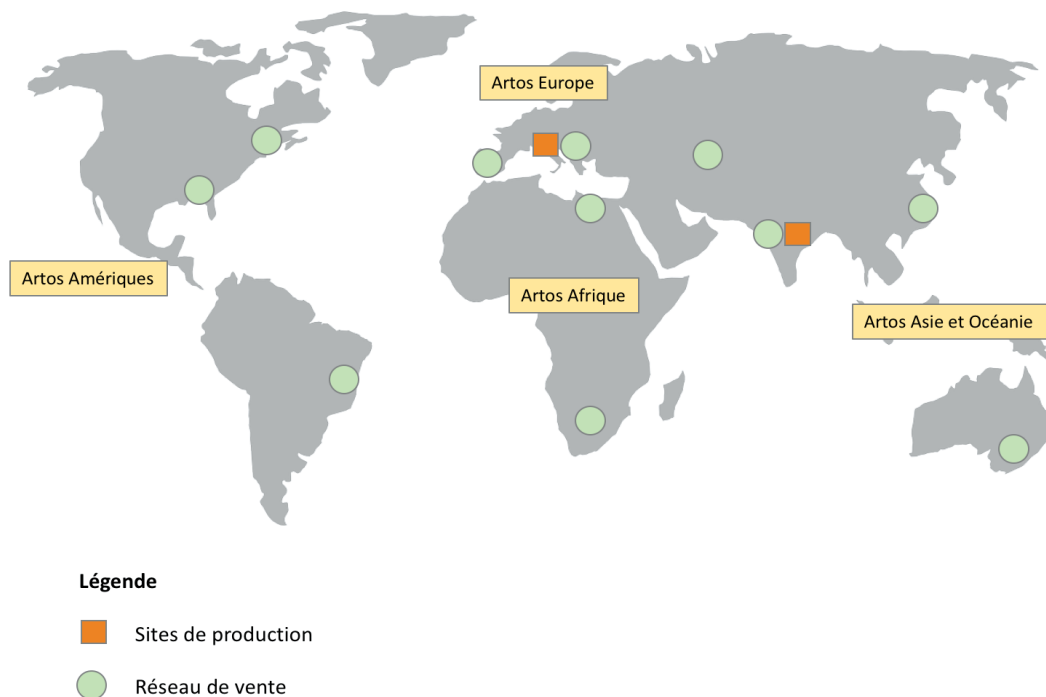


Figure 3: Artos' global presence

Competition

While companies in the machine tool industry once used to compete in terms of product quality, today they differentiate themselves by providing services up- and downstream of the supply channels, and this is particularly true in the case of customized models.

Besides product and service quality, the selling price is obviously playing an important role. Nevertheless, these machines’ performance, average annual availability (i.e. the amount of time the machine is productive) and running costs are equally important. Such machines will normally be working 24/24. Shutdowns for maintenance or repairs have to be minimized as the standstill of a single machine often causes an interruption of an entire production line. Moreover, shutdowns will cause human resource management problems and delivery delays for customers who themselves depend on machined parts for their own production.

The shares of the global market in the metalworking machines industry are distributed as follows:

Company	Headquarter	Market share
IronMod	USA	25%
Tempos	Europe	20%
Artos	Europe	15%
Mosit	Asia	12%
Other manufacturers	Miscellaneous	28%

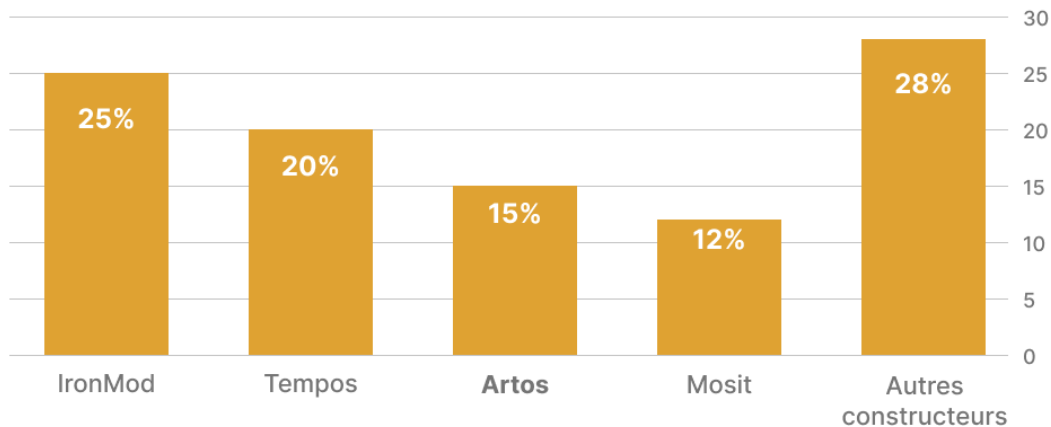


Table 1: Competition

Organizational structure

Artos’ headquarter, administration, R&D and main production is based in Europe.

Artos Asia has a production site as well as a sales, services and training network.

Artos Americas and Artos Africa also consist of a sales, service and training network, but do only occasionally take part in R&D activities.

Artos Europe follows a “pure project organization” with many projects that operate independently of the formal organizational structure.

The “Transversal Project” unit’s R&D activities cover the entire scope of Artos machines regardless of their particular fields of application. There is a good atmosphere within the group. From time to time there is a certain competition with other R&D units, which are specialized in specific machine types and would sometimes prefer to develop by themselves some of the solutions proposed by the “Transversal Project” unit.

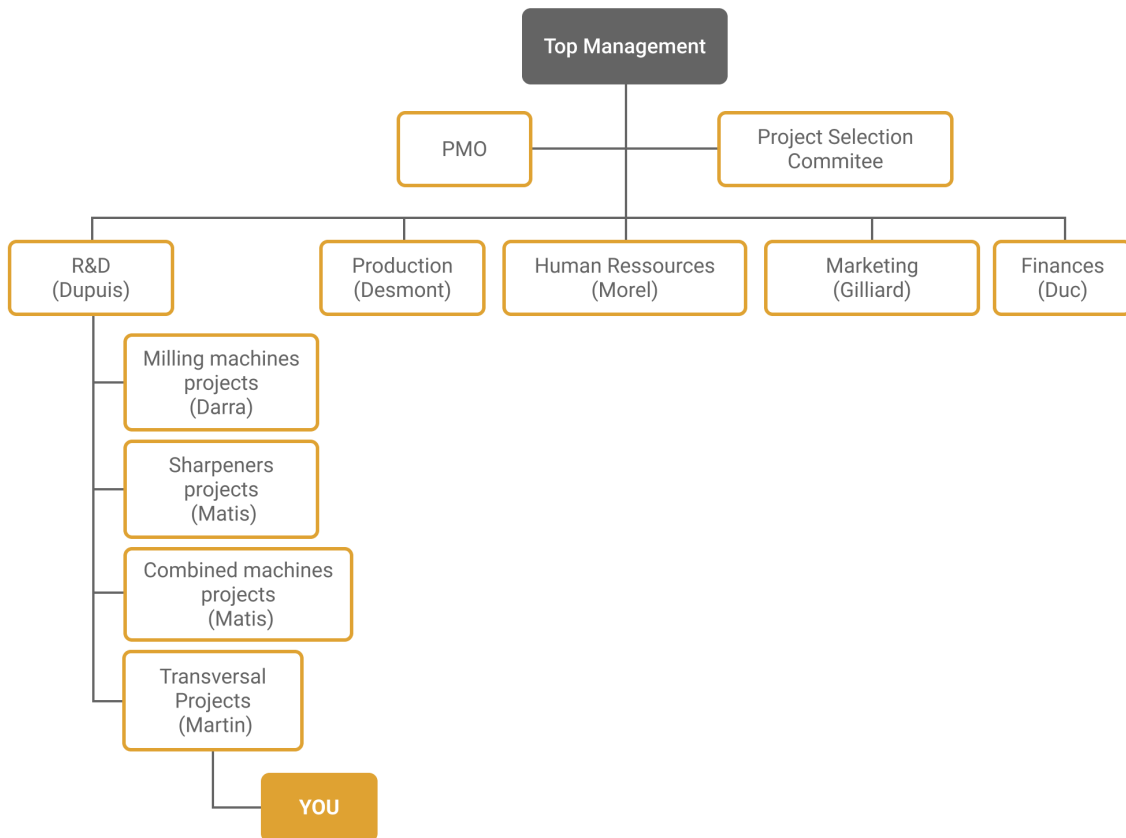


Figure 1: Organization chart of Artos Europe

2.3. Project management at Artos

The R&D department has a well-developed culture of project work for year. Last year saw the introduction of a Project Management Office (PMO) with the mission of improving R&D workflows. Since then, the PMO is dedicated to standardizing processes, defining best practices, archiving and sharing PM know-how and finally to supporting project managers.

In the following figure, each diamond shape represents an approval portal. Projects are run in 4 phases and have to obtain approval at the end of each phase before they are allowed to proceed to the following phase. This procedure has been set up in order to stop as soon as possible those projects that are doomed to fail.

New projects can be launched at the initiative of a team member, by a hierarchical request or on the basis of a customer’s request.

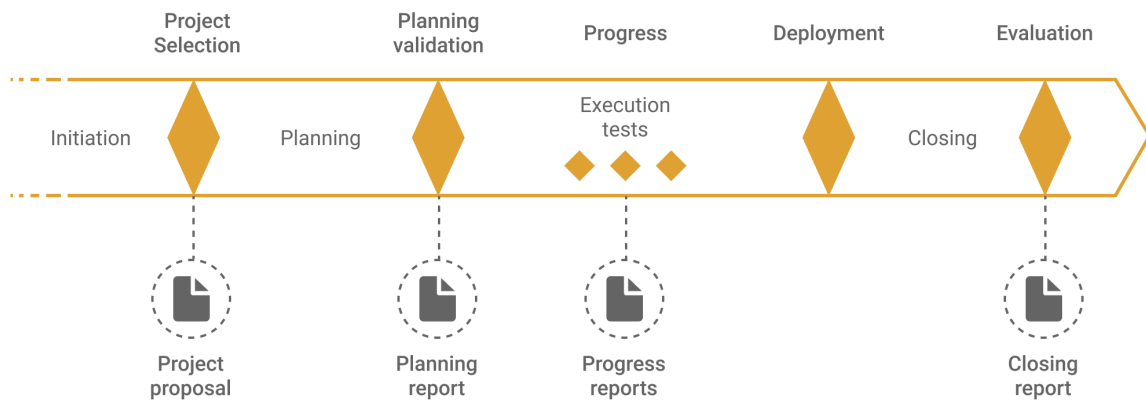


Figure 2: Roll-out procedure for R&D projects

3. The project

3.1. Starting point

Here is an email that you received recently from one of your team members.

Subject: An idea to improve our products

Dear colleague,

Following a discussion with some customers, I want to suggest a new functionality we could add to our machines.

Our customers, as well as our fitters and repairers are spread throughout the entire world. As they work on our machines, they are often lead to consult documentation or to ask for help when facing a difficult operation.

On the other hand, quite often, our repairers have to make long journeys just to help customers with minor operating problems, which are solved within a few minutes.

It would therefore be interesting to implement a global remote assistance system.

This system should allow full access to machine documentation (fitting plans, different circuit diagrams, etc.) for fitters, repairers and users. In addition, it should also be possible to access training modules (e.g. to train users to deal with a particular operation or fitters to address a specific aspect of their work). This solution would grant access to information regardless of location. Updates to plans could be done via Internet.

As far as I can see, we already have all necessary resources and technologies in-house.

What do you think?

For further information please do not hesitate to contact me.

Best regards
Philip Durnand
Fitter

You discuss this idea with your immediate superior, Mr. Martin, who seems convinced. He advises you to think further about it.

3.2. Initial information on the project

After discussions with your colleagues, you already managed to collect some data related to the project.

At first you learn that almost all machines sold to customers are equipped with a computer featuring input and output interfaces such as a keyboard and a screen. The planned remote support functionality could therefore be integrated into the existing computer.

Anticipated timeframe

According to the developers the application could be implemented within two months.

Anticipated costs

Preliminary estimation of development costs: 100'000 €.

Once the new solution has been developed, it will have to be fed with relevant data (plans and other information about the machine), and that would require 15'000 €.

Promoting the solution to customers would call for 30'000 €.

These costs could be accounted for as an initial investment at the beginning of the year.

Furthermore, care and maintenance of the system would add up to 10'000 € annually, starting from the end of the first year.

The investment in the project would be affected at the beginning of the year, while returns and maintenance would start at the end of the first year.

Anticipated benefits

According to a marketing manager the new system should be interesting to our customers. We can expect the number of units sold to increase or we could raise the price of machines equipped with that option. Market research is necessary to quantify the benefits.

4. Next steps... inside the simulation

From now on you will be able to communicate with your colleagues and the top management of Artos Inc. by means of the simulation platform www.albasim.com.

During each project phase you will have to make choices and may undertake some actions, which will produce impacts on aspects such as costs, deadlines, product quality, support from the top management and the future users. At different stages of the simulation, you will receive information from your colleagues by email.

Bear in mind that your time budget is not unlimited! Take a look at all available choices and actions before you take your decisions, as their outcome will depend both on the order and the moment at which you take them.

Now it's time to set up your project and convince the PSC to let you enter the planning stage.

Good luck!