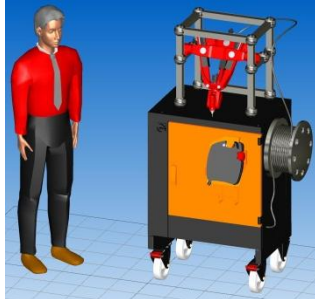


Section A

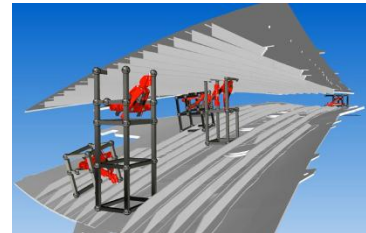
In Aerospace automated assembly it is essential to be able to accommodate all kind of processes like surface detection, drilling, countersinking, orbital drilling, cleaning, sealing, and assembly, without having to develop special equipment for each and every application, and it is also important that an automated system can be adapted to various shapes and materials on large parts, such as wings and fuselages, as well as smaller parts like flaps and doors.



Historically this type of assembly has always required large, heavy duty, expensive machines designed and built with (and for) high accuracy over the entire work envelope and consequential such large machines been generally very complex and normally financially and physically impossible to build with more than one spindle/assembly tool.

To meet above challenges the aerospace industry must adapt automotive thinking but in contrary to automotive the processes in aerospace are highly accurate and have to be performed in tough materials like composite and titanium.

The future Exechon X150 is a standard modular “machine tool robotics system” combining the flexibility and dynamics of articular arm robots with the accuracy and stiffness of CNC machines. This new patented light design gives these modules extreme mobility and, in combination with adapting technologies such as cross lasers and force sensors, it can perform accurate agile operations over very large areas without the use of accurate large expensive heavy duty structures.



A Major Aircraft Manufacturer, hereafter called MAM, and Exechon have already initiated a series of discussions and meetings within several MAM Business Units, Research and Manufacturing facilities to gather collective inputs with respect to the potential applications and value of the Exechon technology to both areas within and outside of MAM, as well as the technology contribution that MAM could provide to future developments.

With respect to the Exechon technology the assessment can be summarized as follows:

- There are clearly opportunities for exploiting the technology both inside and outside MAM that would offer competitive advantages in the aerospace industry and other industrial market sectors (e.g. automotive, etc.)
- Currently the primary strength would appear to be in the area of machining, at least for establishing projects that are seeking to take advantage of any near term applications
- With respect to existing manufacturers, the competing technology in the marketplace is that of the conventional 5 axis machining and thus companies with existing capabilities will need to assess their individual requirements and future business plans to determine at what point the deployment of the Exechon technology would offer sufficient gain to supplant/augment the current machining methods (i.e. depending on the type of work, a retrofit may take longer provide an acceptable ROI with respect to replacing/augmenting current equipment)
- The technological advantages with respect to machining appear to fit a niche of applications as this technology is not an across the board substitution for conventional machining. That being said, the niche markets can be grouped into the following categories:
- High end manufacturing (i.e. high value parts either composite or metallic) where accurate machining, assembly, inspection, etc., is required albeit low volume or production rate but where the parts involved are highly complex in nature



- High volume somewhat complex parts; specifically where the accuracy and speed enable the production of parts with a consistency that might not be as cost effective with conventional machining methods
- Near Net Shape Part manufacturing - Utilizing the Exechon technology can provide significant advantages in supporting near net part manufacturing processes such as RTM, near net casting, etc. As the industry moves in this direction, the benefits of deploying the Exechon technology become more apparent

Additionally there are significant opportunities to expand in areas that utilize robotic type manufacturing techniques where the positioning accuracy, flexibility of reach, and speed offer distinctive advantages for deploying the Exechon technology, for instance:

- Such flexibility and speed could be used as the foundation for a completely automated factory (i.e. a factory with little to no human intervention required)
- setting up highly flexible part manufacturing capability in a machine shop onboard an aircraft carrier
- similarly setting up such highly flexible and high speed capabilities on offshore oil platforms
- automated aircraft inspection systems where fleets consist of many types and sizes of aircraft, as well as varied types of inspection techniques
- automating laser welding applications
- automating fiber placement for complex composite parts

This does not represent an exhaustive list, but serves to support the premise that there are potential areas for development.

MAM shall consider integrating the Exechon technology in ongoing industrial research and development efforts. This may include but may not be limited to 'Research license' for select areas within the MAM Corporation. Such MAM technology contribution shall at least double the fair market value of Exechon Technology.

Section B

The market potential for the X150 will involve some guessing since it's a new way of thinking but it's also easy to imagine the use of two to four X150 machines in every wing and fuselage structure made for every plane in the world ending up in hundreds of machines needed worldwide every year.

The X150 will initially be used in the aerospace industry. The concept is to develop a small in size and weight system that would be easy to position around aerospace parts that require complicated manufacturing processes that up to now require an extensive and expensive deployment of specialized jigs and fixtures that usually are used for the specific task without the ability of reuse or redeployment on other parts of a manufacturing line. For this reason the majority of these manufacturing processes are today 100% manual.

The Exechon X150 will be designed in such a way so that is light-weight but robust and accurate. The initial design specifies a mix of aluminum and composite (enhanced carbon fiber) parts, together with innovative support fixtures. Such concept differentiates the X150 from the remaining X series Exechon Machines and provides the challenge of developing partnership with alternative manufacturers for the system.

The Exechon X150 will revolutionize a large number of existing manufacturing processes and will allow manufacturers to change custom made tooling manufacturing with a flexible process based on the Exechon X150. Procedures such like drilling and riveting of complex structures will be simplified



with a use of a number of Exechon X150s that will be moving from one manufacturing station to another depending on volume and not be part specific.

It is expected that such revolutionary product will attract a large number of customers and will result in a top seller part for the industry.

Further to Exechon's own exploitation MAM will provide significant amount of Know How and Support to Exechon, especially during the first years of development of MAM network driven applications.

MAM has already initiated and will continue to expand the cooperation and information exchange between Exechon and a number of experienced people within MAM organization and its wider supplier and partner network. Exechon will be able to visit, discuss and exchange correspondence with a huge pool of resources and experienced personnel within those organizations and obtain information that will support its product and applications development, as well as the further development of its technology and future applications.

MAM engineering and manufacturing know-how will be a valuable contributor to the development of new applications in terms of understanding and addressing requirements, resolving development issues and capturing new ideas and applications.

In addition, the large base of partners, suppliers and subcontractors of MAM, as well as its global presence will support the further development of the customer base of Exechon and the entrance in new markets and applications.