HAYO STAM

Mechanical Design Engineer and Initiator / Guardian / Host at ‘in the woods’.

OBJECTIVE

To create things that contribute to a sustainable way of life, with respect for all living beings.

SKILLS & ABILITIES

I see myself as a creative, low budget, sustainable thinker. I have practical experience as mechanical design engineer, auto mechanic, house renovator, tree house builder and as a host / guardian. Languages: Netherlands, English and German.

INSPIRED BY

Viktor Schauberger, Nikola Tesla, Nassim Haramein, John Worrell Keely, Rupert Sheldrake, Brené Brown and many more.

GENERAL DATA

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Neukirchen, Austria

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EXPERIENCE

MECHANICAL DESIGN ENGINEER, NL / AT
2003-2011: EMPLOYED / 2012-NOW, SELF EMPLOYED

In 2017 I decided to invest my time only in products that I believe contribute to a better world. In 2018 / 2019 I did a project for Quinteq (Netherlands/USA), helping to improve a mechanical energy storage and one project for Clean Water (Denmark) to help design a Jug to vitalize and clean water, according to Viktor Schauberger principles. In the period 2004-2017 I worked for the company Moog BV in the Netherlands (former Fokker Control Systems) and designed simulators for airplanes, helicopters and cars. First employed, then self-employed from my home in Austria. Before that I worked two years for Ratex, where I developed packaging machines.
Preferably I work from my home office in Austria but together we can discuss other options if needed.

INITIATOR / GUARDIAN / HOST, AT
2012-NOW

In 2012 I moved to Austria and converted a house into a B & B and small seminar house. Since then I have been a part time host for overnight guests and groups. In 2017 we changed the concept and now focus on people who want to find a deeper connection with themselves and with life. (www.inthewoods.at)

CAR MECHANIC, NL
1988-1998

I was working on different car brands, the last two years I specialized on all kind of old timers.

EDUCATION

TECHNICAL COLLEGE, AUTOMOTIVE, NL
1998-2002, BACHELOR’S DEGREE

I was learning about designing the technical aspects of automobiles, doing my internship at Schrick in Remscheid Germany and my thesis at Mercedes in Stuttgart Germany.

KNOWN SOFTWARE

Microsoft office programs like: Excel, Word and PowerPoint. For communication: Skype and Zoom. With the 3D and 2D software like: Auto-CAD, Ideas, Inventor I have some experience, with ProE Wildfire and Creo I have about 15 years of experience.

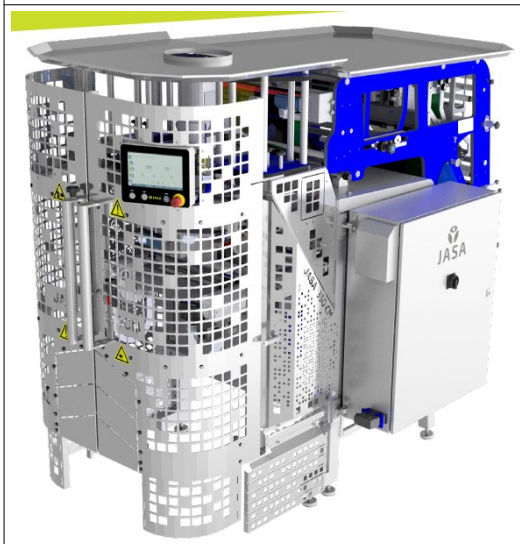
APPENDIX TO RESUME OF HAYO STAM 2019-10-04

Employed as a (senior) mechanical engineer 8 years:
2003-2004: Ratex Engineers, NL www.ratex.nl
2004-2011: Moog in the Netherlands, NL www.moognetherlands.nl
Entrepreneur as (senior) Mechanical Engineer:
2013-present

Experience:

- reverse engineering
- Top-down modelling using the skeleton feature in Wildfire 2 and Creo 4 (PTC)
- FEM analysis (2005)
- Improvement of existing products / prototypes / models
- New development of products
- Implementing ideas from others
- International cooperation:
  Customers from Japan, Russia, Italy, Switzerland and of course Holland
  Clients from Denmark, Holland and USA

DESCRIPTION OF MY PROJECTS



Project: Packaging machines for JASA www.jasa.nl

Employer: Ratex Engineers

What: Development of solutions, development of the implementation of parts of the packaging machines. Create 3D models and drawings in Pro Engineer and AutoCAD.

Duration: between 2003 and 2004, several shorter projects

Project: Installation station for welding oil and gas pipes www.ratex.nl/index.php/english/projects

Employer: Ratex Engineers

What: Development of solutions, development of the implementation for the setup station. Create 3D models and drawings in Pro Engineer and AutoCAD.

Duration: about 3 months

	Project: Parts of a drill stabilizer www.ratex.nl/index.php/english/projects Employer: Ratex Engineers What: Developing solutions, creating 3D models so that the models can be used for flow simulation. Duration approx. 2 months
	Project: Transforming an Original Chinook Helicopter Seat into a G-Seat (A G-Seat is a pilot's seat with built-in actuators that simulates flight movements, making the seat look and feel like the original and can move during flight simulation). www.moog.com/content/dam/moog/literature/ICD/G-Seats.pdf Employer: Moog What: Worked as a mechanical engineer. I received an original Chinook helicopter seat and a 3D scan of the seat. I have adjusted the standard Moog actuators, seat shakers, back shakers and seat height actuator to the seat. Then I changed the seat so that all this could be integrated. It has succeeded, making the seat look and feel like the original and move accordingly during flight simulation. Special challenges: • Preservation of original seat adjustability, although the actuators took up a lot of space in this area. • Adjusting the height of the seat, despite the greatly increased weight of the actuators, had to feel exactly the same in the application as it did with the seat's low original weight. • There was no prototype. Direct creation of the final product. Duration: about 6 months

Project: Copy an original Pilatus aircraft seat and transform it into a G-seat
www.moog.com/content/dam/moog/literature/ICD/G-Seats.pdf

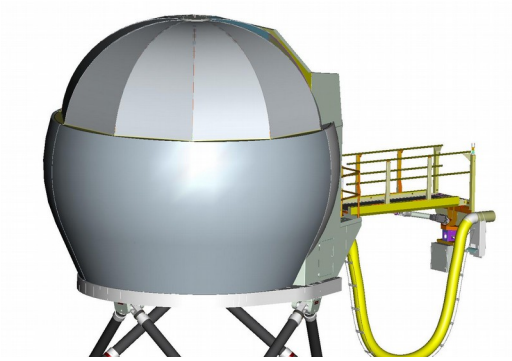
Employer: Moog

What: Worked as a mechanical engineer. I received a 3D model of the original seat and was able to see and study the original seat at the customer's site. I had to copy the seat so that it looked and felt like the original seat and still had room for the standard Moog actuators. Drawing the 3D models with PTC Wildfire (Skeleton).

Special challenges:

- Reverse engineering with a focus on cost reduction on some very expensive original parts.
- Parts with special functions had to be copied exactly in the haptic handling.
- Direct production of the final product without prototype.
- From the 3D model, I could not deduce how the seat and the operation feel (regarding material, required force for the operation of the individual functions, point resistance and continuous resistance, etc.). I was only able to view the original seat to be copied in the first week, analyze it and create a document with all the details, since it was in Switzerland. I myself worked in the office in Holland. As a solution, I integrated a few details that could be adjusted after production so that the original was exactly imitated.

Duration: about 10 months



Project: 6 DOF Helicopter Simulator www.heli-center.com/mi-17-1v-simulator

Employer: Moog

What: Worked as a mechanical engineer and had the task of designing the entire helicopter simulator. In doing so I had to determine the positions of all components and functions for example the cockpit, the flight instructor cabin, the electronic cabinets, the projectors, the cable management, the electronics, etc. Designing the shape to be most practical. During the project, I created 3D models for all parts, followed by 2D drawings for production.

Special challenges:

- Create the 3D model from scratch.
- The weight had to be as low as possible.
- When designing, the natural frequency of the structure must be taken into account, since the natural frequency must not be activated during the motion simulation. (My colleagues at Moog checked my designs based on the modal / strength analysis).

Duration: about 1 year

Project: Car test simulator

Employer: Moog

What: Worked as a senior mechanical engineer (design team 3 people). The task was to design a car test simulator, where the 3D model was built on "main and secondary skeletons".

The positions of all components and functions had to be determined, such as: the 360-degree projection screen, the vehicle body, the turntable for the vehicle body, the projectors, the cable guide and the electronics.

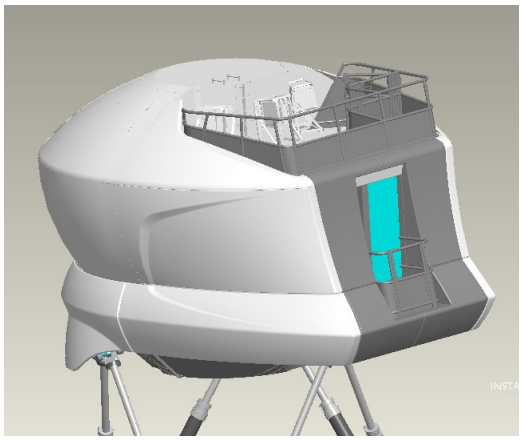
The shape had to be designed in a practical way so that the performance of the simulator in terms of weight, COG, degree of movement, inertia, etc. is as optimal as possible.

Also in this project, special attention was paid to the weight, stiffness and natural frequency of the structure. Moog has to test each design for its natural frequency, strength and rigidity. This is very expensive. For this project, I had the idea to do the calculations using the skeleton model. This succeeded and led to a simplification in many other projects.
A colleague has performed the calculations for strength, stiffness and modal analysis.
After a few months, the model has been split into three sub-assemblies so that my design staff could work out most of the details and make the drawings under my supervision. The drawings were delivered to the Japanese customer and they built the simulator.

Special challenges:

- Direct production of the final product without prototype.
- Successful communication with the Japanese customer despite cultural differences.

Duration: about 1 year



Project: Aircraft Simulator
www.ruaviation.com/multimedia/32/?h

Employer: Moog

What: Worked as a senior mechanical engineer (design team 5 people). The task was to design an aircraft simulator, in which the 3D model is built on "main and secondary skeletons", from scratch.

The positions of all components and functions had to be determined, such as: the cockpit, the flight instructor cabin, the electronic cabinets, the cable management, the electronics. The shape was designed together with an industrial designer.

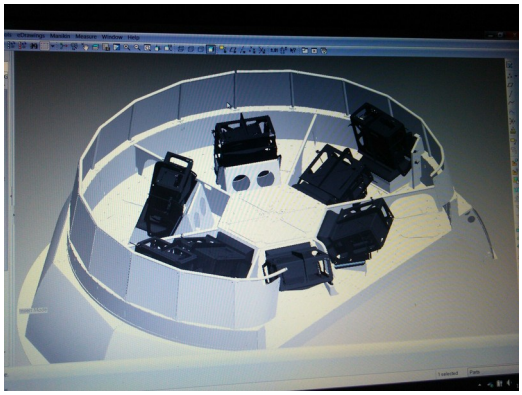
In this project too, special attention was paid to the weight, rigidity and natural frequency of the structure. The calculations were again carried out on the basis of the skeleton model by a colleague.

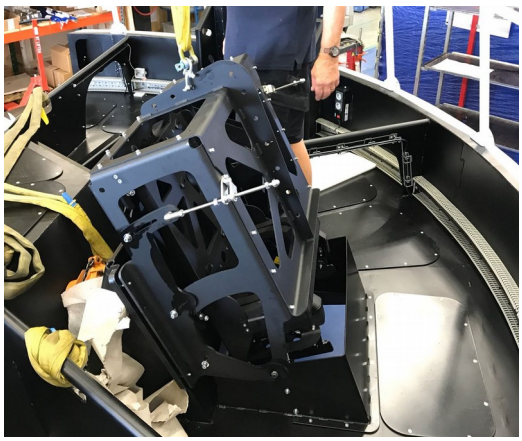
After a few months, the model had to be split into five sub-assemblies so that my design staff could work out most of the details and make the drawings under my supervision. After the parts had been designed and build, I assisted with the assembly hands on, and adjusted the 3D model with improvements for the next simulator.

Special challenges:

- Direct production of the final product without prototype.
- Team leadership in the workshop

Duration: about 1 year





Project: Roof construction including projector mounts for the helicopter simulator

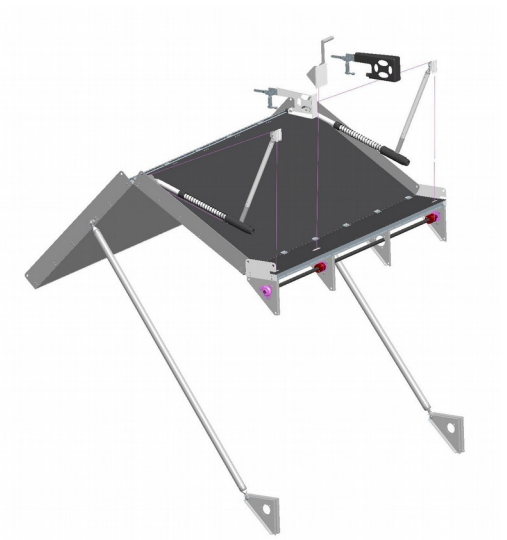
As an entrepreneur (mainly home office) on behalf of Moog

What: Worked as a mechanical engineer. Designing a new roof with projector mounts for the helicopter simulator that I designed earlier (when I was still at Moog). The chief engineer at Moog prepared a main assembly containing a skeleton model with the interfaces for the roof. As always modal analysis where necessary and performed by a colleague.

Special challenges:

- The design of the projector mounts: Because each of the eight projectors had to be adjustable around a virtual point. The virtual point had to stay the same even if the projector was rolled sideways in the bracket, tilted or gated forward or backward. It was also important that these three functions did not influence each other. Furthermore, there was very little space.
- The high weight of the eight projectors including brackets (about 80 kg), which sit very high in the simulator. The height and the weight affect the natural frequency very much.

Duration: approx. 9 months part-time



Project: Maintenance platform for the projectors of a helicopter simulator

As an entrepreneur (mainly home office) on behalf of Moog

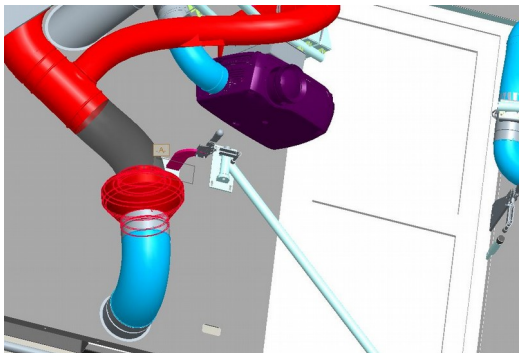
What: Worked as a mechanical engineer. Design of a new maintenance platform for the projectors of a helicopter simulator with the projectors under the roof construction (a continuation of a project other than that described above).

With the use of skeleton it was possible to develop the geometry of the folding mechanism. I have designed a sandwich floor construction to keep the weight low and the stiffness and strength high.

Special challenges:

- The platform had to be light and foldable, but strong enough for two people including a projector to stand on the tip (about 250 kg).
- End product without prototype
- An automatic locking mechanism was necessary for safety. It had to be prevented that the platform folds up again after entering.

Duration: approx. 1/2 year part-time



Project: Many small projects.

As an entrepreneur (mainly home office) on behalf of Moog

What: Worked as a mechanical engineer. Mainly to make ad ons of products that have already been designed by me. For example, to design a projector cooling system (picture left). It was necessary to blow cold air to the projectors and to suck hot air from it.

When: 2013-2018 (part-time, approx. 12 h / week)

Project: water vortex / -vitalisator.

As a contractor (mainly home office) on behalf of Clean Water, Denmark www.clean-water.com (New website expected in October 2019)

What: Worked as a mechanical engineer and designer (shape) and helped Erik Madsen of Clean Water develop a brand new water Vortexer / vitaliser.

Erik and I worked together for a week in my home office to start the project. He showed me his ideas and designs and talked about the challenges he still faced (for example the locking mechanism).

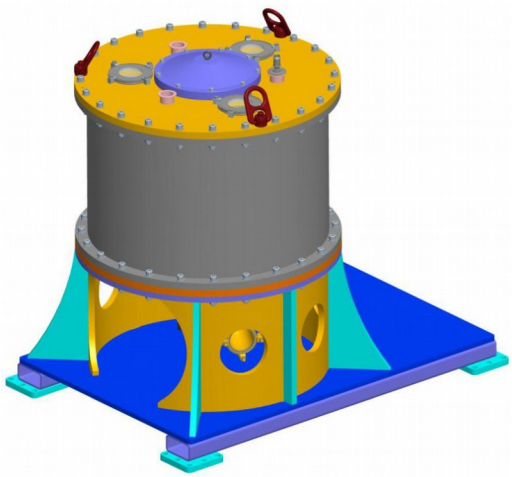
I translated his ideas into a 3D model, solved the challenges and prepared all parts for production (injection molding).

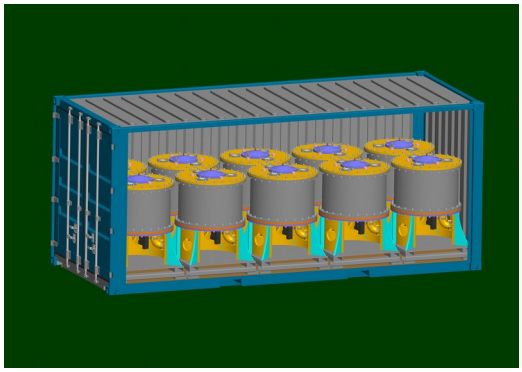
Special challenges:

- My first injection molding project.

Period: 2018-2019 (project of about 1 year, part-time)

Erik Madsen made me a 5% co-owner of the company.





Project: mechanical energy storage flywheel

As an entrepreneur (mainly home office) on behalf of Profound Engineering / Quinteq energy storage
www.profoundengineering.nl
www.quinteqenergy.com

What: Worked as a mechanical engineer for Johan Rippen, owner of Profound Engineering. Optimization of the existing prototype of a mechanical energy storage device to mass production.

We received a 3D model of an earlier prototype. The prototype was not suitable for production. The 3D model contained many flaws and bugs, and many details were missing. I started by studying the existing model and listing all the questions I came across. Then, based on the skeleton top-down modelling, I made a copy of the 3D model in PTC Wildfire. The layout was completely reconsidered and I adapted the design in many essential ways. The number of parts has been reduced and the precision of the entire assembly increased.

Every week I transferred the updated 3D files to Johan and discussed progress with him via Skype. Also weekly, we had an online meeting with Quinteq to clarify questions and show them our solutions. After designing the entire unit to meet all the needs of Quinteq, I made the 2D drawings of all parts and assemblies. Johan was responsible for the final inspection.

As soon as all parts are produced, we will assemble the energy storage together.

Special challenges:

- Many unanswered questions during about the prototype.
- Challenging components as core elements of the mechanism (project details may not be mentioned at this time).

Period: 2018-2019 (project of approx. 1/2 year, 30h / week)

With best thanks to my wife Lisa Moser for the helping to create this document.