



AMZ News

HOLIDAY GREETINGS FROM AMZ

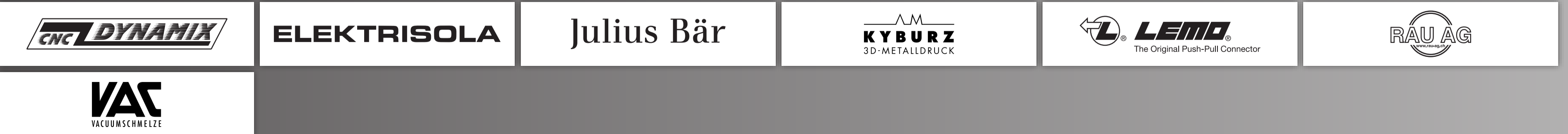


Season Ending of *mythen* & *pilatus driverless* © kreuzweise

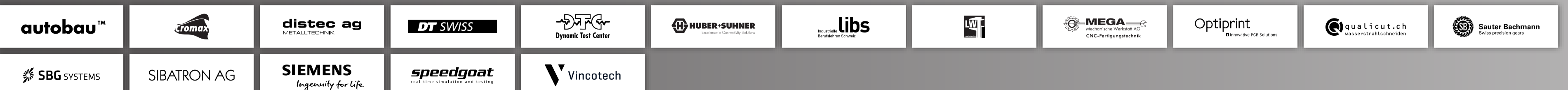
Main Sponsors



Premium Sponsors



Sponsors





CHRISTMAS GREETINGS

Christmas season has reached Zurich! Throughout the streets the markets have opened, the smell of fresh roasted chestnuts fills the air and decorations brighten the early dusk with a warm and comfy light. Similarly the AMZ office provides shelter from the cold winter while the team converges closer and closer to the final form of *alvier*. This critical phase in the project relies on good communication and teamwork such that the team can confidently transition to the manufacturing phase in the new year.

DESIGN PERIOD

A lot has happened since the last newsletter; it is hard to conclude in a

short manner. Starting from a blank sheet in September the team responsible for the car proudly presented their ideas and concepts at the detailed concept presentation at the end of November. Despite the engineering feats achieved up until this point, there are still many questions and concepts that need to be worked out and validated, before reaching the design freeze on Christmas.

The essence of reaching this critical deadline is the ability to work together in an efficient manner. Since the beginning of the season in September the *alvier* team has grown more together in an effort to design a finished car. The office is filled with lively discussions some more heated than the other, some ending in laughter others in deep thought. No matter the outcome, the

team spirit remains high as everyone is looking forward to releasing their ideas.

PROSPECTS

The end of the year marks the start of a new chapter. For us this means the beginning of the construction phase and process of turning the CAD model into a functioning car that can be presented at roll out. The transformation requires many hours in the workshop solving problems on the spot, fitting and correcting, milling and turning will be part of the workflow just as much as sketching and calculating is now. Many are looking forward to seeing their ideas manifest in *alvier*. This however is still a couple weeks away and a lot needs to be done until then.



mythen on the Bahnhofstrasse © kreuzweise

A WARM THANK YOU!

For us the Christmas break will be a short one, as the manufacturing phase is not long in coming and many parts need to be drawn and dimensioned such that

our generous sponsors can provide us with the high quality components we need to construct our 14th car *alvier*. However short the break might be we wish all of you happy holidays and are looking forward to the manufacturing

update in the new year! We thank all of you for providing us with the opportunity to realize our joint dream. Merry Christmas and a happy new year!

Main Sponsors

Premium Sponsors

Sponsors

Favourers

- | | | | | | | | |
|---|--|--|--|---|--|--|--|
| <ul style="list-style-type: none"> 3D-Prototyp Ausbildungsverbund AarauWest Cimform AG Falegnameria F.lli Bugada H.A. Schlatter AG Fonds Kistler Automotive GmbH NOVAGEAR AG Rofam GmbH Tschudin + Heid AG | <ul style="list-style-type: none"> 3M Schweiz Berner Fachhochschule Domsel AG Fritz Born AG HABA Kubo Tech AG Oerlikon Group RoViTec ZF | <ul style="list-style-type: none"> 9T Labs BERNINA DSW FURKA Reibbeläge AG hasler ag maxon motor Oetliker GmbH Data Science SATW | <ul style="list-style-type: none"> Admec AG Bomatec ebm-papst Garage Stucki AG Helly Hansen Schweiz AG Melasta P Mec Sagl Schaffner GmbH | <ul style="list-style-type: none"> AGVS Bossard EDAG Engineering GmbH Gaugler & Lutz oHG Hirschmann MessX AG prometall handel AG Scientific IT Services | <ul style="list-style-type: none"> Airtech Brander Präzisionsmechanik Enclustra GmbH GDELS – Movag igus Schweiz GmbH Moderbacher AG RacingFuel Academy AG Sturmberg GmbH | <ul style="list-style-type: none"> ANB Boumi AG Büchler Reinli + Spitzli AG Expressdruckerei GmbH Generelli SA INVENTUS Engineering Müri PROTOTECH AG Rheinmetall Air Defence AG Styro 3D GmbH | <ul style="list-style-type: none"> Argotec CEBI Facom Glatt-Lack AG KISSsoft AG norelem Rigi-Kühler AG Suter-Kunststoffe |
|---|--|--|--|---|--|--|--|

The new **pilatus driverless** team © AMZ

DRIVERLESS TEAM

This season is unique for the driverless team in that, for the first time, the same electric car is being used for two consecutive seasons. This opens the possibility for extensive testing and refining of systems, given the pre-configured car. Everyone is excited to see what is in store for this season, as work begins in earnest.

The first step in any project is the evaluation of the current state of the problem, and the best way to do this is hands-on experimentation. After an exciting testing day with *pilatus*, and a

comparison of the autonomous systems to a trained driver's performance, the new team members were eager to begin work with the car and its autonomous systems.

In the past weeks, alumni have passed down knowledge and advice to the newly formed design teams. New team members have divided responsibilities and begun the process of research and ideation for all the possibilities the new season has to offer.

During initial meetings, the team has presented their early findings and thoughts, and already it is clear that the autonomous systems of *pilatus* will look

quite different for 2020. While some aspects are tried and true, others are being challenged by the new recruits. A key focus is on what was identified as areas for improvement after the end of last season, with the goal to help the new *pilatus driverless* car excel in all areas in 2020.

For us, the Christmas break will mark the end of our first phase of development. Afterwards, work will begin in earnest on transforming concepts and designs into reality. We expect to be a lot busier in the new year, so we are all wishing for a happy and restful holiday season.



First Testing Day © AMZ

In order to bring you closer to the work of our students on the way to an autonomous racing car, here you can find the tasks of the different project areas below.

Estimation

Interpreting the vision data, to model, map, and quantify the car's immediate environment

Software

Providing coding and simulation tools to enable the integration of all aspects of the pipeline, and to support targeted and efficient development.

Perception

Seeing the world through the eyes of the car, while trying to replicate human vision capabilities in an unpredictable environment.

Control

Reacting to a changing environment and the state of the car in order to optimally complete a given task.

Main Sponsors

	<p>Wir bringen Energie</p>	
--	----------------------------	--

Premium Sponsors

Sponsors

Favourers

3D-Prototyp Verkehrszentrum Tuggen	9T Labs	Aetina	DTC AG	eco-volta	Maxon Motor	Optiprint	SATW
------------------------------------	---------	--------	--------	-----------	-------------	-----------	------