Austro Control Austria	**FOCA** Switzerland	**NTA** Hungary	**HCAA** Greece	**ILenT** The Netherlands	**SAF** Sweden	**DAC** Luxembourg	**KCAA** Kenya
ENAC Italy	**CAA** Slovenia	**Transportstyrelsen** Sweden	**IAA** Ireland	**Luftfartstilsynet** Norway	**CAA** Latvia	**BHDCA** Bosnia and Herzegovina	**MLA** The Netherlands
FOMV Belgium	**CASA** Australia	**OSAC** France	**DSAÉ** France	**TRAFI** Finland	**DGAC** France	**CCAA** Croatia	**SACAA** South Africa
DCA Myanmar	**NCAA** Namibia	**LBA** Germany	**CASA** Papua New Guinea	**2-REG** Guernsey	**CAAT** Thailand	**AFAC** Mexico	

EMPIC-EAP®

The Standard Software for Aviation Regulators Everywhere

Newsletter March 2021

EMPIC 20 YEARS

EMPIC finished the year 2020 with excellent business results. We were able to fulfil our revenue targets – even under the pandemic. We secured liquidity to fund our costs for 2021 and, thanks to our new and long-standing clients, we can rely on maintenance and licence income to guarantee the sustainability of our company – an important fact in the current situation and still in the near future.

EMPIC works full time and is not in need of any government aid programmes! We can work from home at low infection risk without any cut in efficiency. This privileged situation allows us to fulfil our commitments to our clients, move on with the development of new versions of our software and support our clients in their implementation projects, fully remote instead of a mixed approach with physical presence.

We even discovered a growing interest of aviation regulators to invest in digitalization. And we got feedback from our current clients on how easy it was to continue working with EMPIC-EAP® in home-office mode mostly.

On the one hand, it is rather useful when a stakeholder can communicate his requests electronically without the need to visit the regulator's office in person. On the other hand, our system offers the "fully digital" approach which allows an officer to work from his home and have full access to data and electronic documents – completely secure and reliable. Our product recently stood penetration tests by a professional 3rd party again – ensuring a high level of security, see the article in this newsletter.

EASA and ICAO – so we were told – are considering remote audits as well – very easy if they have remote access to our system and can check the structure, history data, traceability, workflows, cases etc. within our system.

We are looking forward very much to meet you – our long-standing as well as potential clients – in person again during events and on-site for workshops… a bit of patience, it will come back. Demand for our "gold standard" safety oversight management system remains stable or may even increase, considering the challenges of re-starting aviation when air travel picks up again.

Save the date: We are planning a happy celebration for EMPIC's 20th anniversary together with our community and staff in November 2021.

Enjoy reading the newsletter and stay safe!

Jörg K. Kottenbrink CEO

Jörg K. Kottenbrink CEO

EMPIC ≡ *NEWSLETTER*

A warm welcome to AFAC of Mexico!

We are pleased to announce the latest addition to the EMPIC Community, Agencia Federal de Aviación Civil (AFAC) of Mexico.

AFAC is a newly created independent aviation regulator, one of whose early priorities is to establish a programme for modernisation to address the findings of an IASA-FAA audit recommending wide-ranging improvements to aviation regulation in Mexico. Near the top of AFAC's list is the complete overhaul of the regulatory management system to replace numerous legacy systems that struggle to meet the needs of both the regulator and those regulated.

AFAC completed its evaluation of the EMPIC software earlier in the year 2020 and reached agreement to install 30 modules covering all the basic regulatory functions in June.

In selecting EMPIC-EAP® the AFAC Management commented that "…it was important to find a solution that had proven capability and could be deployed quickly. We were impressed by the flexibility of the EMPIC system and how easily it can be configured to meet our exact needs. Also, one of AFAC's goals for the new system named eAFAC, is to support our drive for digitalization and to become the first paperless government authority in Mexico: EMPIC-EAP® will help us achieve this."

AFAC Management went on to say "Of great significance for us was the confidence we gained from adopting a system in use by so many of the world's leading Regulators and the recognition of EMPIC-EAP® by ICAO and EASA provided yet further reassurance we had made the right decision."

In response, Jörg Kottenbrink, EMPIC's CEO, paid tribute to the professionalism of the AFAC team and looked forward to starting the implementation programme which is scheduled to take 2.5 years to complete. During the implementation programme, EMPIC will be supported by its local partner who will assist with training and knowledge transfer to AFAC staff.

EMPIC-EAP® with RPAS / UAS / Drone Support

The sheer exploding number of remotely piloted air systems worldwide became a real challenge for aviation regulators. How to keep our skies safe and hold the pilot of an unmanned aerial system (UAS) accountable in case of an incident? In Europe EASA came up with a very modern approach to address this issue, which is based on the risk level exposed by the UAS operation. Corresponding regulation came into force on the last day of 2020, which means that from this day on the drone operators and pilots in so-called open and specific categories had to be registered by the national aviation authorities.

To support our customers, a challenging project both on the regulator's and on our side began way before the law came into force. A Drone Team with members from several interested NAAs and EMPIC was established and regular virtual meetings were held. The exemplary collaboration again proved EMPIC's motto "built by regulators for regulators". EMPIC came up with new API functionality that enables a custom front end at the regulator (e. g. a web portal) to communicate with the EMPIC server and to automate a lot of manual tasks. Otherwise, the high volume of expected requests from end users would keep several authority employees busy. The API functions are built on modern GraphQL technology and a combination of different API calls permits covering manifold diverse use cases. Aviation authorities now have the chance to build a scalable and highly customizable solution as a web front end in line with the corporate identity and specifics of the respective country.

Transportstyrelsen (TS), the Swedish aviation regulator, was our first customer to successfully build such a self-service portal for their drone operators & pilots and connected it with EMPIC-EAP®. It enables private individuals and companies to register themselves as a drone operator. Remote pilot candidates can take an online examination and get an RPAS license. And all this information is safely synchronized to EMPIC-EAP® via our APIs. The web portal of TS went life on 4 January 2021 and registered 7389 drone operators (6971 persons and 418 organisations) as well as 5250 drone pilots in EAP during the first 10 days of operation. Imagine this should have been done by hand. Another of our customers – Slovenian CAA – also did a great job and went life with their own "Drone Web Portal" at the beginning of January 2021. In the next step, the Slovenian aviation authority is going to connect their front end to their EMPIC-EAP® server and soon we will have another success story to tell.

EMPIC software stood penetration test

"EMPIC provides the global gold standard for safety oversight management software to aviation regulators worldwide. These systems hold everything from a pilot's medical records and ratings to safety inspections of air operators.

The EMPIC-EAP® platform gives industry regulators the ability to manage vast amounts of information and provide governance and assurance to the aviation industry and the overall traveling public. The global aviation industry depends on the security of such systems to offer accurate and reliable data for risk management and to keep compliant with regulations."

This quote from a cyber security expert underlines the importance of a renewed penetration test for EMPIC software. EMPIC contracted with an independent external specialist to run penetration tests on our various platforms in version 2020R1.

Several tests were made to check EMPIC-EAP® against a variety of "attack vectors". Special focus was laid on the communication between the server environment and the EMPIC clients (WEB, mobileSL, rich client), as well as 3rd party systems using EMPIC APIs, as such communication is done more and more via internet connections. Regular tests with upcoming versions will follow.

EMPIC-EAP® JAVA Rich Client Application
- Testing bespoke code for vulnerabilities.
- Focusing on authentication and premissions.
- Performing OWASP testing and assurance.

HTML Portable Device Portal
- Testing bespoke code for vulnerabilities.
- Focusing on authentication and premissions.
- Performing OWASP testing and assurance.

Additional Tests Requested
- mobileSL - rich client.
- API Testing - based on REST / GraphQL

FOCA adopts mobileSL

Long-standing member of the EMPIC community, the Federal Office of Civil Aviation (FOCA), Switzerland, are also expanding the scope of their EMPIC-EAP® implementation to include EMPIC® mobileSL. We likewise thank CASA of Australia and Transportstyrelsen of Sweden for their recent commitments to mobileSL.

Following field trials during which inspection and audit staff tested the capabilities in different scenarios, the FOCA management decided to acquire mobileSL from EMPIC. This comprehensive tool – in combination with the EMPIC back end system – manages the complete surveillance activity life-cycle from initial planning to close-out of all findings; multiple users can work on one single surveillance event. ACAM inspections and ramp checks are also supported. MobileSL is packed with features to ensure that no detail is overlooked, no finding forgotten, with all supporting evidence, photos, signatures, reports and decisions time-stamped and recorded for future reference. Mobile networks or WLAN, where available, are used to synchronize the system on-site or otherwise on return to the office, providing a fully integrated offline/online surveillance client for Windows laptops and tablets.

New Software Release: EMPIC-EAP® 2020R2

We have just released our newest Version "2020R2" with many improvements and new features. We have implemented 35 epics including 1929 single tickets. Our team worked very hard to achieve such an impressive result even during these difficult times. We invested much effort into improving usability across all modules. In particular, I would like to highlight our redesigned checklist in OAS. The checklist is now much easier to use and better structured to view more information at a glance. Furthermore, we implemented a new encryption solution for our Medical module and have already sent out new encryption cards to our customers. This provides a superior level of security for highly confidential medical data which are not visible to anyone other than persons within the medical examination process.

…these are just a few functions we have implemented. We invested as well into GDPR relevant topics, our Drone API, copy functions for certificates, penetration tests and many more. We are looking forward to your feedback and hope you benefit from the new release.

Michael Überschär – UX Architect at EMPIC

Today we start a new journal series by introducing our employees to you. Every newsletter will contain an introduction of one of our employees and give you some insight behind the scenes.

We will start our new format by introducing Michael Überschär, whom many of you already know from the user feedback sessions regarding our user interface. He takes us through his past and tells us more about who he is and what his plans for EMPIC-EAP® are.

Michael joined EMPIC in 2019 and has been working in his role as an UX/UI Architect since then. His focus is to enhance the user experience of EMPIC-EAP®. To reach this goal he establishes user-centered design within our development process, provides usability coaching and creates prototypes for upcoming features.

The human-centred design process (ISO 9241:210) which we have implemented at EMPIC focuses on the user, task, and context of use. The goal is to ensure that said tasks can be processed efficiently, effectively, and satisfactorily by the user. Michael makes his decisions based on human behaviour patterns, best practices, studies, user feedback and many other interesting bits of information.

Michael has always been interested in information technology and psychology which led him to study "Human-Computer Interaction", a degree that combines topics such as psychological ergonomics, statistics and artificial intelligence. During his studies, he worked as an investigator at the Würzburg Institute for Traffic Sciences where he tested experimental driving assistance systems with test subjects in the field and in simulators.

After Michael received his diploma, he tried his hands as a social entrepreneur and started developing a web portal that would make it easier for people with disabilities to find travel partners. He then worked for the German Federal Employment Agency, where he helped develop a cross-project design system and was responsible for usability and accessibility of the new software. Finally, he joined the "CompuGroup Medical", where he was the Lead UX Designer for a new pharmacy software for the European market.

In the end, he found his "home" at EMPIC. When he started working for EMPIC, he quickly realized how unique his colleagues and the working atmosphere at EMPIC are; and we can quote him: "The people are EMPIC's capital". Michael has the ambition to bring big improvements to our software portfolio. First, he wants to simplify the operation of the current software version and round it off with quality-of-life features. Next, he can already foresee developing a new product line to increase the EMPIC portfolio.

When Michael finds some free time in his schedule, he hikes, learns foreign languages and develops his own applications. Since his studies, he has been an avid machine learning enthusiast and tries to keep up with the latest developments. He loves to travel and meet friends and strangers alike. We are happy to have Michael on board and you can look forward to the next improvements he will be bringing to EMPIC-EAP®!

Dates

Upcoming events

User Group Meeting 2021-1
The first user group meeting of 2021 is scheduled for 12 – 16 April 2021, for the third time as an online event.
You can find the agenda information on our website, www.empic.aero.

The MED session is planned one week later, on Monday 19 April, also as an online event.

User Group Meeting 2021-2
The second user group meeting of 2021 is scheduled from 8 -12 November 2021.
Let's hope that we can all meet at EMPIC HQ in Erlangen, Germany. The drinks are on us.

Next EMPIC-EAP® Releases
- 2021R1: 28 June 2021
- 2021R2: 13 December 2021

The Last Word

Any suggestions for topics you think would be of interest to our readers can be notified to: office@empic.aero