

CROATIA: Crisis Management at the Forecasting department



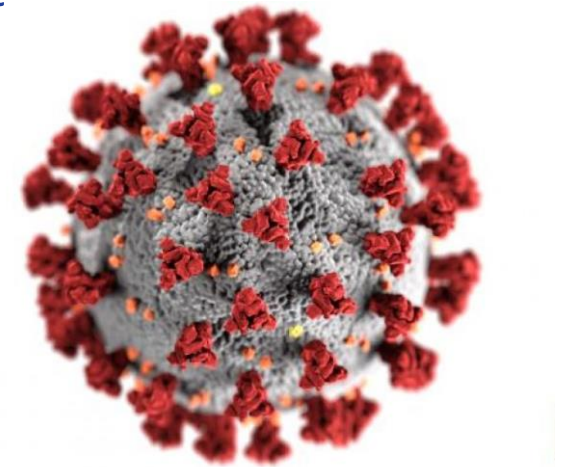
Lovro Kalin, Croatian Meteorological and Hydrological service
(thanks to Tanja Renko, Kruno Mikec, Tomislav Kozaric, Izidor Pelajic and many others...)

WGCEF meeting (via VC), November 11-12. 2021.



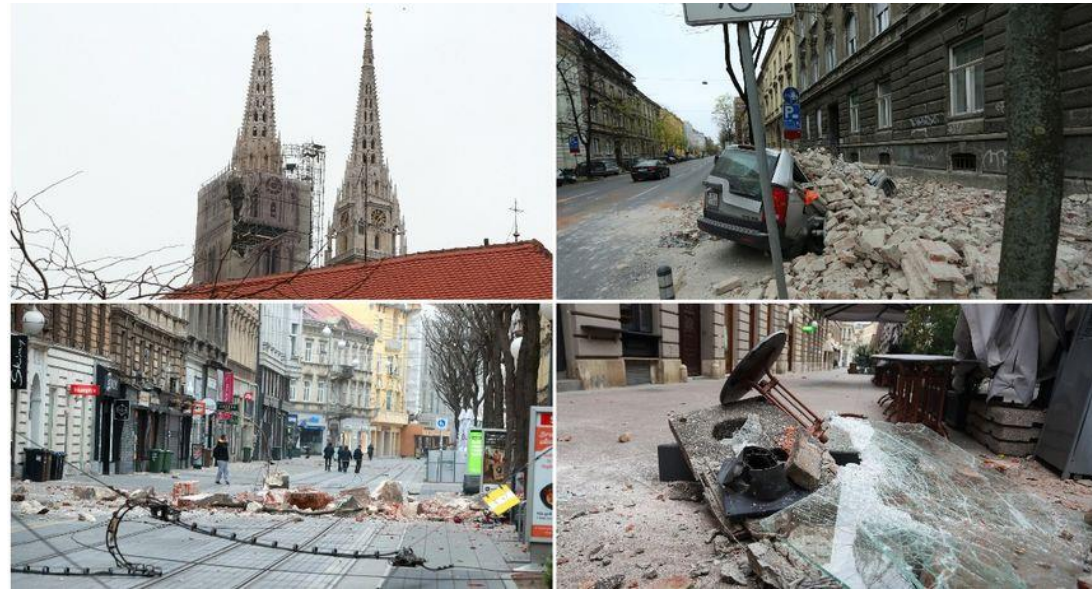
COVID-19 preparations

- early stage (Feb, March 2020)
 - preparations for remote operational access
 - daily joint briefing suspended (meteorologists, hydrologists, biometeorologists, TV-presenters)
 - distancing, sanitation procedures and equipment
- mature stage
 - only principal forecaster at the Office
 - additional shift - from home
 - non-operational work - from home
 - TV-forecast – normal but reduced
- summer – almost no COVID-19 cases – relaxation
- in 2021 all over again :/



Zagreb 2020 earthquake

- March 22nd (Sunday) at 6.24 a.m. - 5.5 Richter
- soon after (7:01 am) another one - 5.0 Richter
- 27 people injured, 1 killed (15-year old child)
- thousands of buildings damaged, hundreds permanently (chimneys, attics)



Zagreb earthquake – Met Service

- Sunday early morning – only duty forecasters and technical staff
- major damage to building and offices – RED label assigned (not secure for any further use)
- all servers stuck in the computer room (basement)
- forbidden/restricted entry to the building
- temporal break of Zagreb Grič measurement series (longest record - run since 1861)

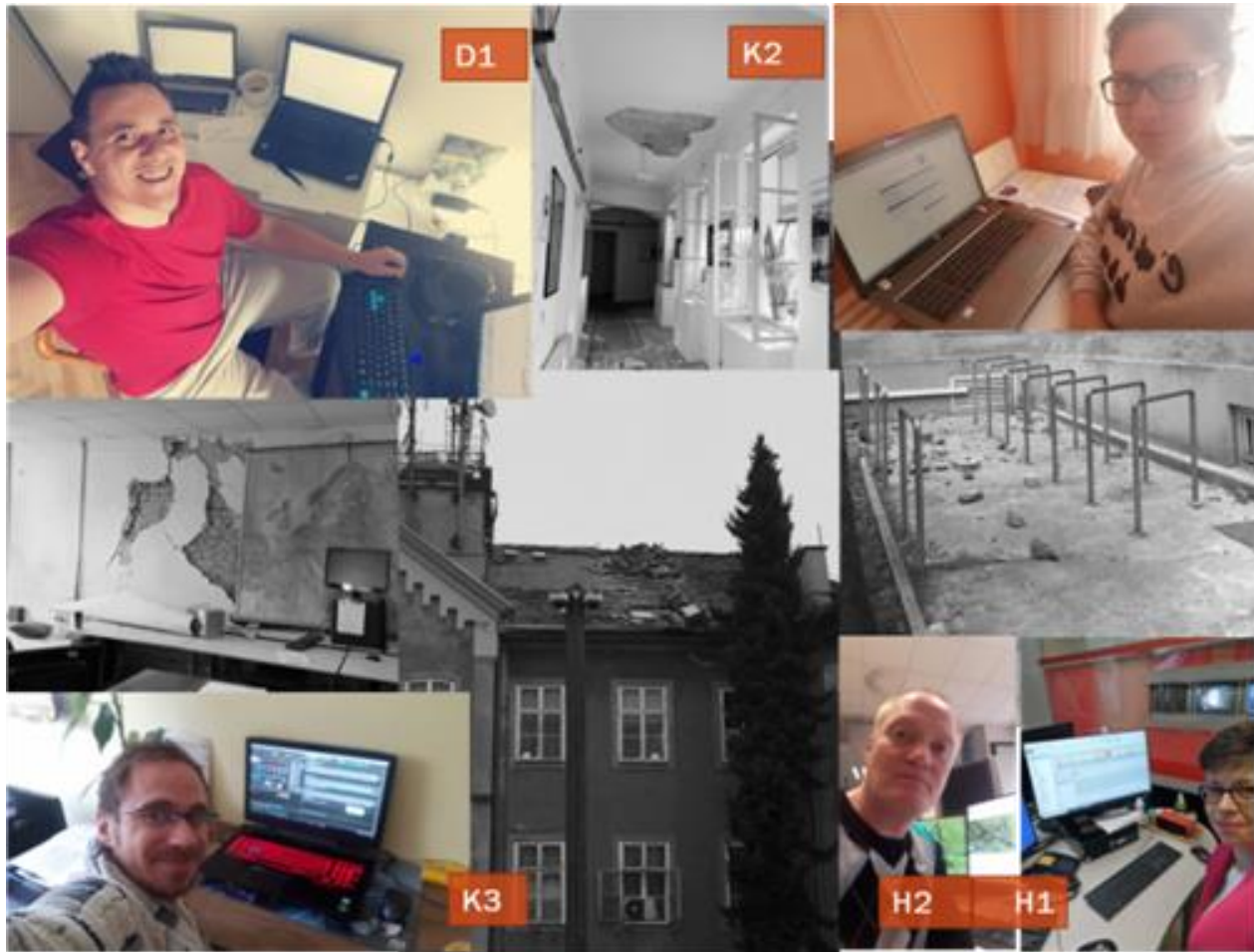
Croatia: Crisis Management at the Forecasting department



Zagreb earthquake – Weather forecast

- process briefly interrupted, info sent to Twitter channel
- work continued from homes
- daily problems and interruptions of computer infrastructure, network etc.
- some tasks temporarily suspended, but most of the forecasts issued
- very intensive communications via phone, mail, Slack, Whatsapp, Viber...
- alternative protocols and emails established for worst case scenario (“blackout” – experienced one at later stage during computer servers relocation)
- situation almost not bearable... search for new temporal office

Zagreb earthquake – Weather forecast



Zagreb earthquake

- provisional Forecasting office in Service's complementary building



Zagreb earthquake – cloud solutions

- intensive efforts to migrate the existing forecasting Workstation to the European Weather Cloud (EWC)
- quick and devoted help from ECMWF, EUMETSAT and IBL
- most of the operational environment and functionality was reconstructed in the Cloud using several Virtual machines
- so far was not needed in real action, we hope it could remain a strong backup solution for any possible further crisis
- operational NWP suite (Aladin HR) successfully migrated to the EWC also

Zagreb earthquake – new DHMZ premises

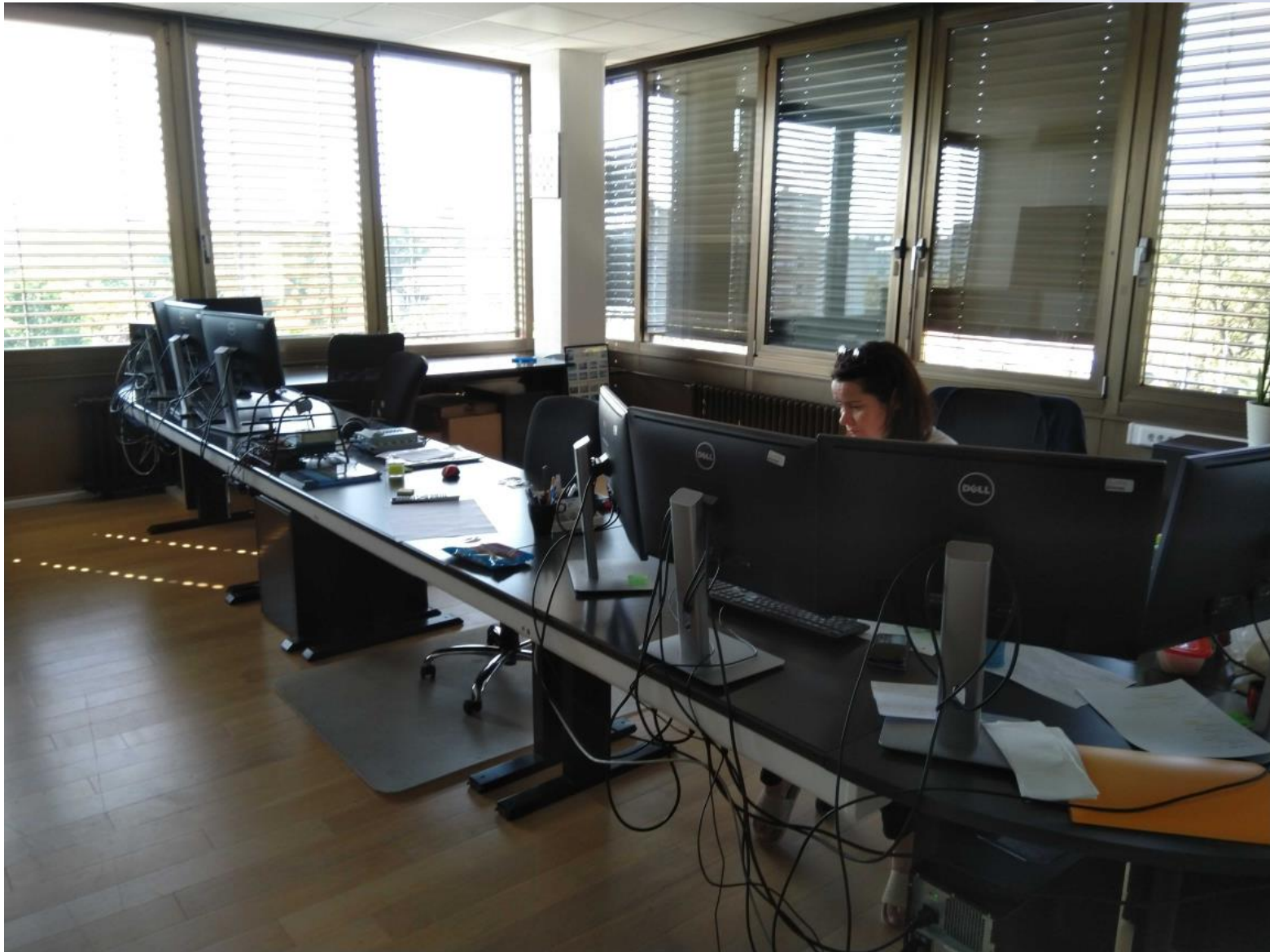
- instant search for new spaces, many difficulties
- in summer a solution has been found – a contract for lease in a big private chocolate company (“Kraš”) for 3+3 years



New Forecasting office



Croatia: Crisis Management at the Forecasting department

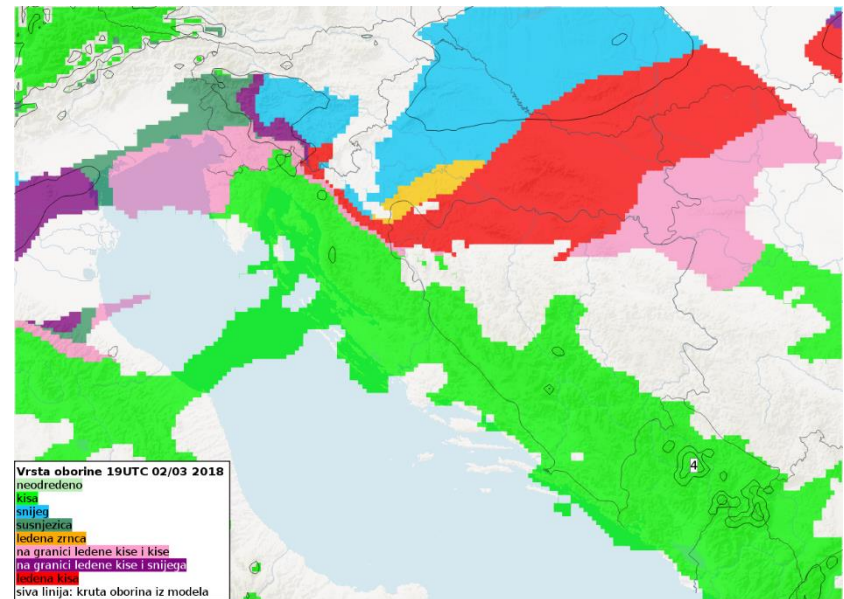


Croatia: Crisis Management at the Forecasting department



Recent developments...

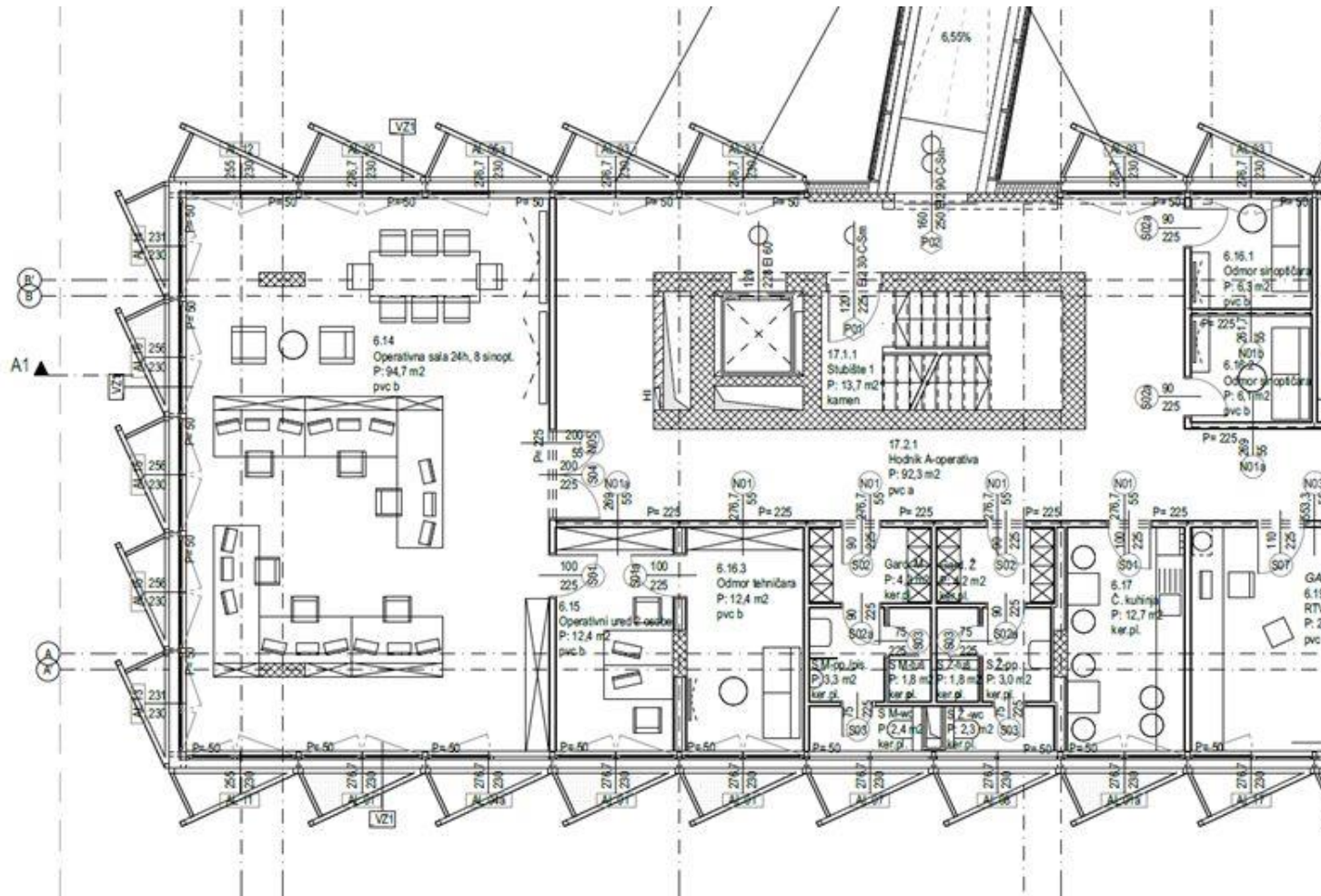
- new supercomputer (Atos BullSequana XH2000) purchased and currently installing
- Aladin LAEF system interface built, fc also imported to Visual Weather
- new Aladin products: precipitation type
- finalisation of VW Alert Editor customization – a new more comprehensive warning system (counties)
- import of georeferenced met. data into Civil protection and other applications



Hopes for new Headquarters...



...and Forecasting Department



Crisis management...

- biggest crisis in my career so far (~20 years)
 - luckily, COVID-19 preparations helped
 - pointed to our drawbacks and SOP dissabilities
 - still... didn't kill us... so...
-
- we managed to quickly mobilize our abilities
 - established and improved emergency protocols
 - managed even some high-end solutions (cloud...)
 - forecasts mostly running as usual



In the end improved our status compared to before...

What it counts is.... people!!!

