

A1

Slovenia floods August 2023

19.11.2024

Resilience in legal theory and after an actual catastrophic event

RESILIENCE 3 different laws: **Electronic communication Act**, Information Security Act and Critical infrastructure Act (at least: 3 different legal/operational regimes, 3 different state administrations-AKOS, Cybersecurity office, Ministry of defence)

- And specific ISO standards (Nr. 22301, Nr, 270189)
- Is one regime possible – complete crisis handbook?
- Can only realistic solutions be included?
- **Critical infrastructure needs priority treatment.**

Telecommunications (ICT sector): **among most important pillars of critical infrastructure** (by itself and for other critical infrastructures) – what in case of crisis operators need is operational crisis handbook, a team, functioning power supply, security/protection, access to locations and supply chain (i.e. access to gasoline)

When crisis, **the time to react is crucial** – internally to detect problem and respond accordingly in order to restore normality, externally a cooperation between telco operators (voluntary), all infrastructure operators and emergency state administrations (one administration to take the lead and establish communication channel – should be predefined and should be mandatory))

Expectations defined in law differ from reality (i.e. national mobile roaming) – **obligations must be realistic!**

A1 Telekom Austria Group¹

Who We Are

One of the leading convergent communication providers in **Central and Eastern Europe**.

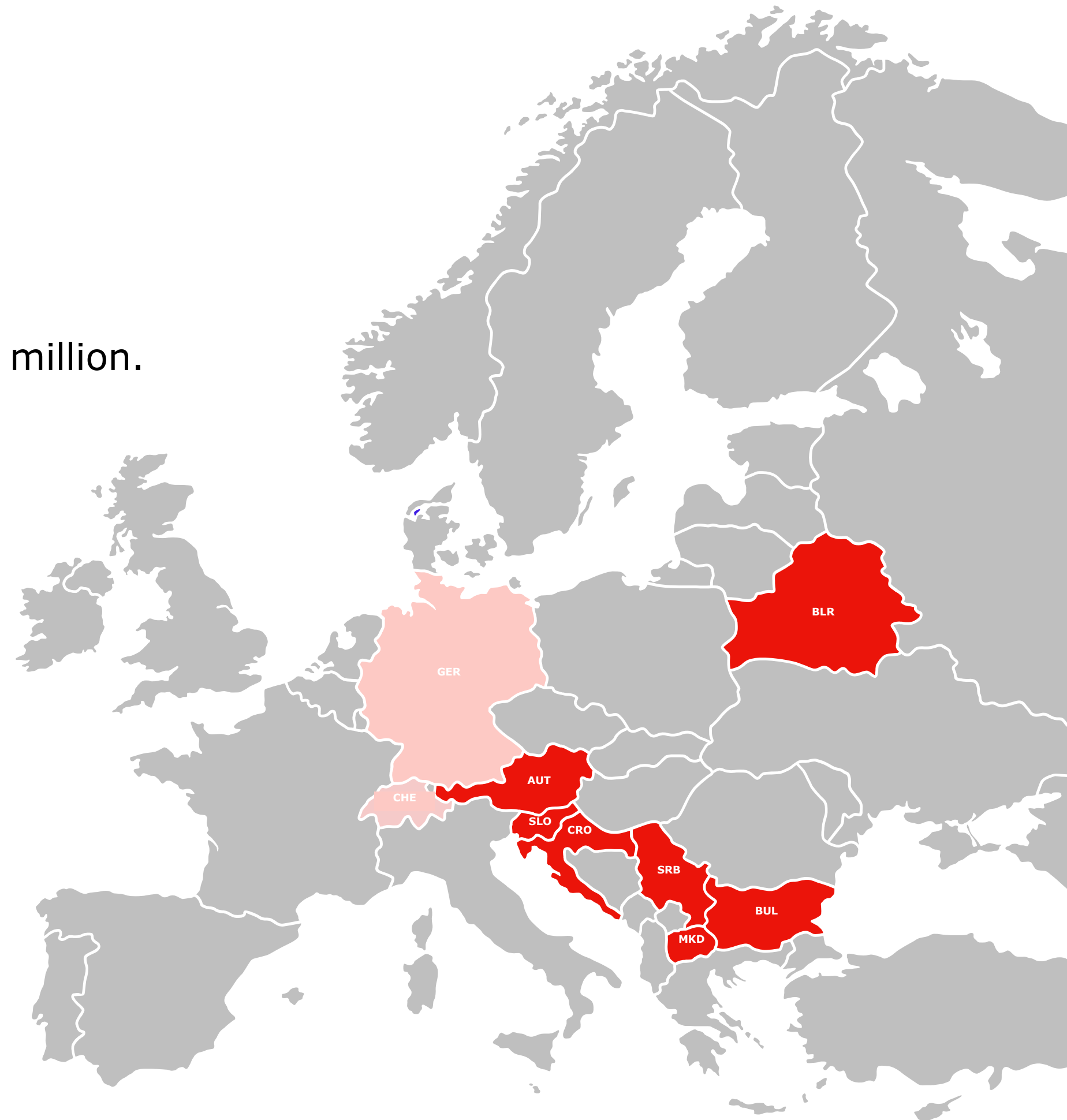
We operate in **seven countries** with a population of 42 million.
6 out of 7 markets are convergent.

Our about **18,000 employees** deliver

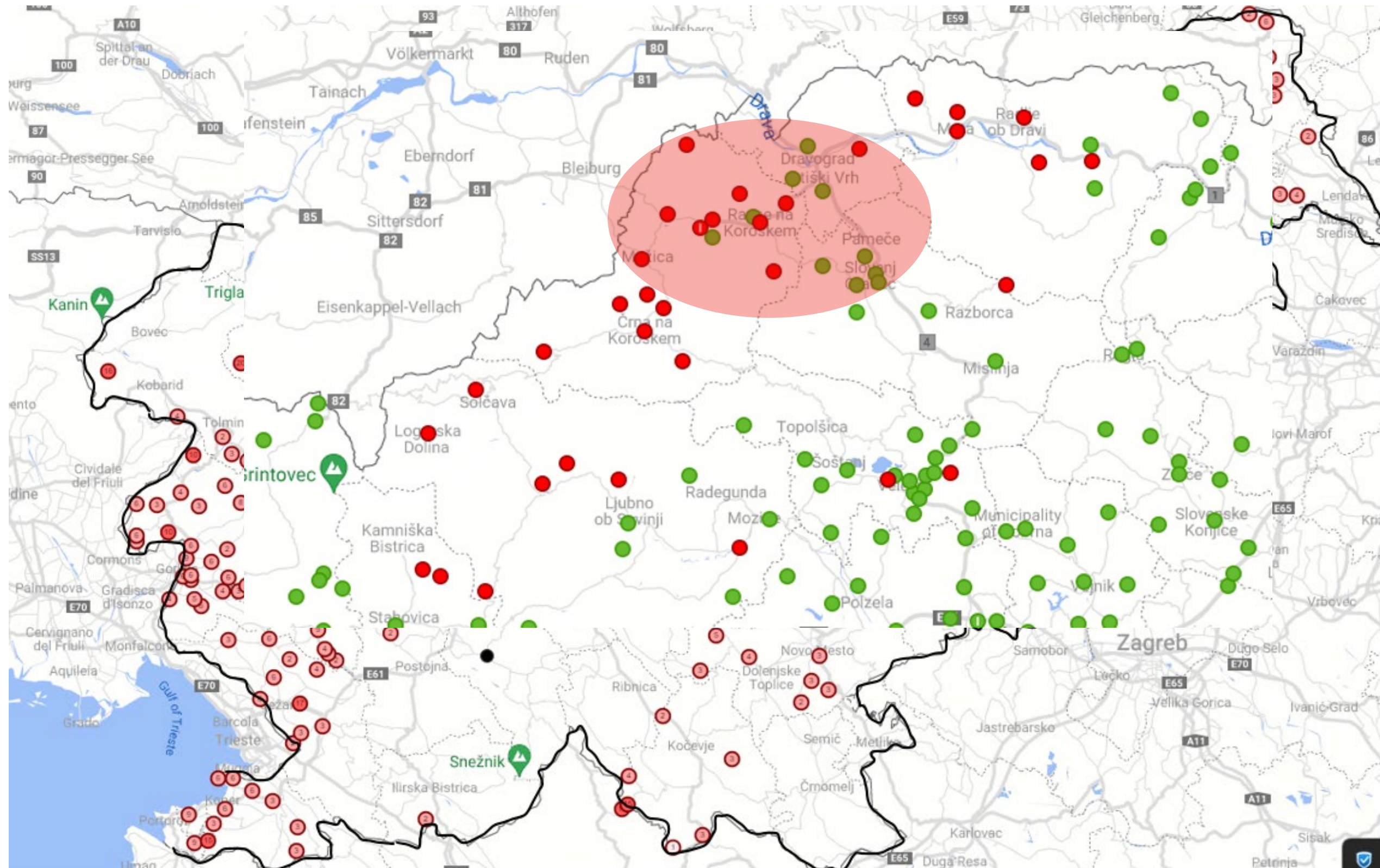
- Products and services of voice telephony, broadband Internet, TV, multimedia services, data and IT solutions, wholesale as well as fintech services
- For approximately **26 million customers** across our markets of operations
- We offer cloud, security and ICT-services in Germany and Switzerland

¹ Short: A1 Group

* In compliance with United Nations' Security Council Resolution 1244.



Floods in Slovenia August 2023



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How we reacted:

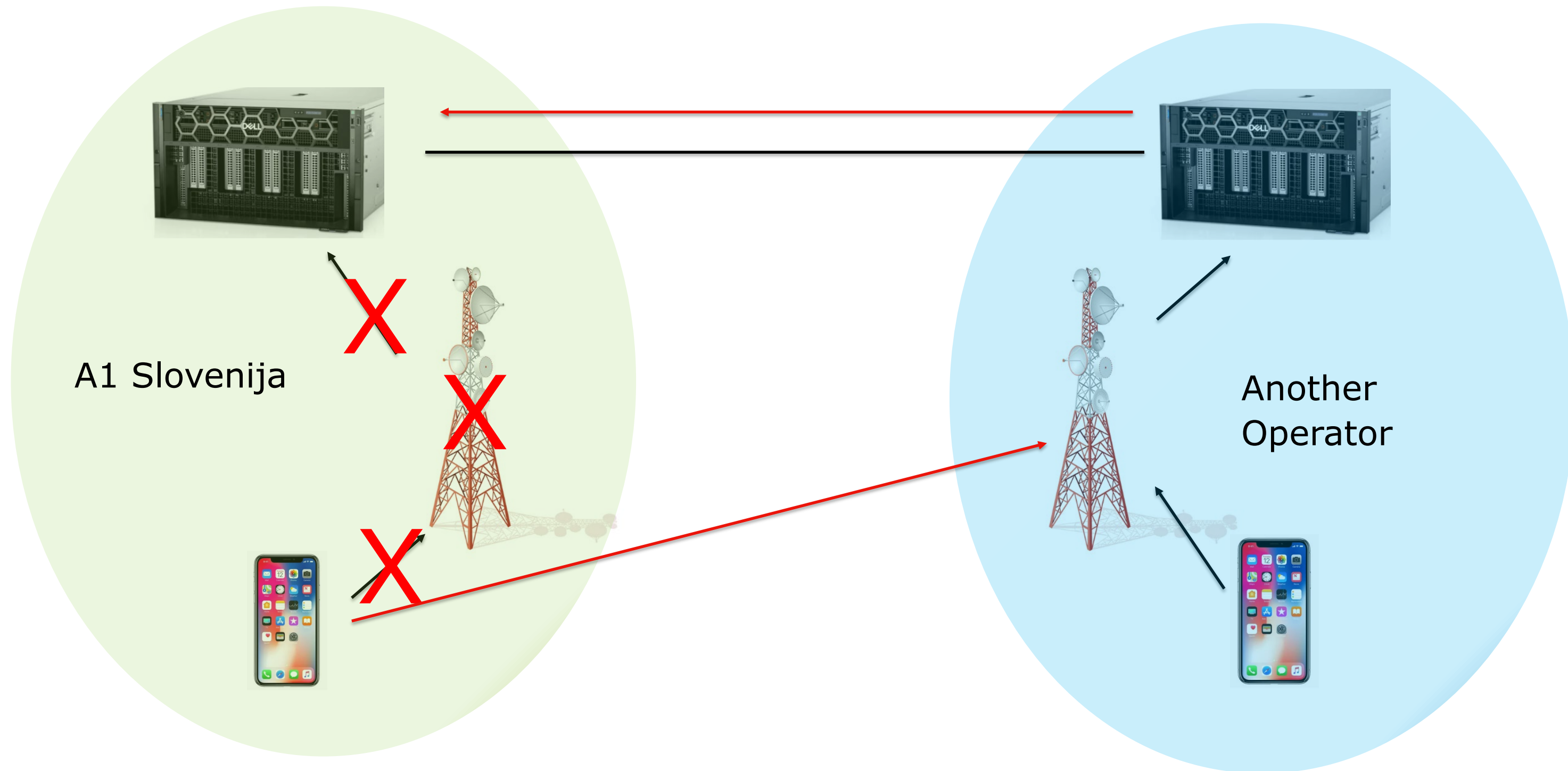
- activation of A1.SLO crisis team (board member + LT-1+ experts)
- Focus on communication – internal, external and to our clients
- Close cooperation with civil protection, police and army
- Power supply recovery
- Inaccessible areas - organizing transport with special vehicles and helicopters (destroyed road infrastructure)
- Close cooperation between operators (on location where all OpCos are present, we shared power supply source from aggregates, we also shared still working transport infrastructure)

Main focus:

- Reactivate service in shortest possible time

Floods in Slovenia Avgust 2023_National Roaming

Limited **regional national roamaing** scenario



Crisis management_lessons learnt

| What | How | Experience during last floods | Action plan |
|---|--|---|--|
| Crisis announcement | Setup clear KPI's for activation of crisis team. | Internal Crisis team not activated. | CISO sent proposal of new KPI as part of Business Countinity plan. |
| Communication between other operators and URSIV/URSZR | URSIV and USRZR established communication between the operators, them and RTV through the teams group, A1 could not participate due to internal rules | We weren` t be able to establish MS Teams communication with others operators and public services (URSIV, URSZR) | CISO prepare options for establishing communication on that kind way, communication must be tested beforehand |
| Generators | Provide generators with smaller capacities, which are more suitable for interventions in places that are difficult to access | We found that in areas with difficult accessibility, the existing aggregates are not suitable (too big, too heavy, mandatory access by vehicle, too heavy for a helicopter) | Intervention procurement of 5 smaller aggregates, provision of processes for emergency use |
| Fiber cuts | Simultaneous fiber cuts of several geographically separated spans via different fiber providers to dispersed A1 Transmission POP locations | Transmission outage of entire Koroška region and as a consequence disrupted RAN and FIX services | Review of leased optical infrastructure, spans and KMZ data for additional geo redundancy, where possible by fibre providers |
| Microwave transmission | Physical Re-linking of own Microwave network to available Transmission locations. L2VPN service from Telemach during first 4 days in Koroška region for certain RAN sites without own Transmission | Where ED was available, Microwave was the only available and reliable technology of Transmission to RAN locations. | Re-model Microwave network and introduce additional „umbrella“ Transmission for regions as a Backup for Fiber cut outages |
| Limited regional roaming | Establish limited national roaming option with one of Slovenia Operators. | NR establish in one day including testing. | Prepare configuration files for inbound/outbound NR option including real time reporting |
| Unlimited data | New SOC activation on subs profile via IT provisionig process | Incompatibility with existing SOC's, 43k profile change in cca 24 hours | We will analyse technical possibility with new ADX PCRF for free data option, excluding outbound roaming |

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**Thank
you**

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