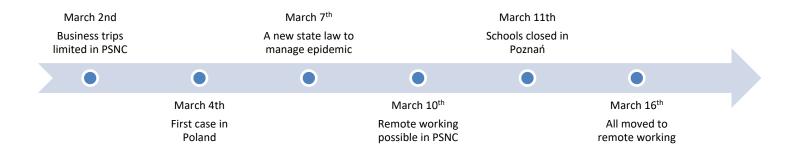




### **General timeline and company responses**



- Only single key person from each team physically present in the premises
- All non-outage related trips postponed
- NOC specific
  - NOC is somehow separated by itself
    - 2 separate NOCs
      - 1+2 persons on duty
      - Separated by locations and services
  - But BMS and remote-hands require us to keep NOC staff



## **Personnel safety first**

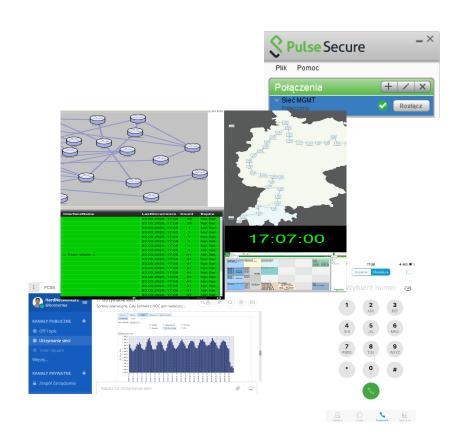
- Placed hand sanitizers in NOC rooms
- Placed disinfectant in NOC rooms for equipment cleaning
- Increased the frequency and range (desks, door handles) of cleaning operations
- Provided protective gloves
- Changed colocation visit procedures to limit the in-building walks
  - Provide additional guidelines to customers and urge to postpone unnecessary maintenance
- Used thermal cameras where possible (still in testing)
- Maintain communication to NOC staff





# **Technical supporting solutions**

- Mostly not specific for the NOC itself but as part of the company's solutions
- VPNs
  - Provide access to mission critical infrastructure and applications
  - PulseSecure
- Phone redirection and/or software client usage
  - Cisco Jabber
- Messaging platform
  - Own instance od Mattermost
- Remote access to NOC's videowall (real operator's view)
  - Barco CMS





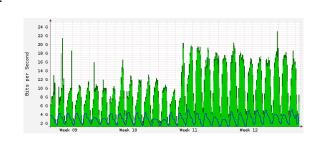
### **Challenges**

- NOCs need to maintain physical presence
- NOC staff are not dedicated engineers
  - Cannot work remotely
- Contingency planning anticipates replacement rules for missing shifts
  - Achieved via NOC personnel replacement
  - Exceptions covered by members of Network Management Team and Services Team
    - Still physically present in PSNC premises
  - But not full NOC closure
- Can't do remote
  - BMS
  - Fire detection and distinguishing system
  - Manual interventions e.g. wrt power outages



#### **Contingency planning**

- Reviewed Business Continuity Plans
  - Some already ready for ISO-27000
  - Reviewed risk assessment
  - Immediate UPS and generator tests (some failed ⊕)
  - Reviewed plans for switching off services in case of longer power outages
    - Keep key infrastructure running as long as possible
- Intensified network and services monitoring
  - Network impact is not that significant
  - Increased demand for services (VC)
  - Need to observe the government rules that apply for network operator
  - Watch for possible DoS attacks for key services





#### **Additional materials**

- By Uptime Institute
  - COVID-19: Minimize Critical Facility Risk On-Demand Webinar
     <a href="http://go.the451group.com/yGODYJmg0o0eYYA0jS00">http://go.the451group.com/yGODYJmg0o0eYYA0jS00</a>
     010
  - COVID-19: Minimizing Critical Facility Risk Report <a href="http://go.the451group.com/gC0Yjge0J10GYY0oD000">http://go.the451group.com/gC0Yjge0J10GYY0oD000</a>
     <a href="http://go.the451group.com/gc0Yjge0J10GYY0oD0000">http://go.the451group.com/gc0Yjge0J10GYY0oD000</a>
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