

Lab 1 - Unexpected events

Pick between 2 and 3 unexpected events corresponding to the selected digital service scenario. Discuss them with regards to your consequence tree.

Categories:

- **[B]** = supply / vendor dependency
- **[C]** = cost shock
- **[R]** = regulation
- **[T]** = connectivity / infrastructure
- **[E]** = environmental / physical shock

1. Autonomous vehicles (robotaxis), Melbourne
 - **[B]** Main lidar/chip supplier faces export restrictions or bankruptcy.
 - **[R]** New regulation requires a human safety driver on board after a fatal incident elsewhere.
 - **[T]** GPS-spoofing / cyberattack incident forces a temporary fleet-wide shutdown and spikes insurance costs.
 - **[E]** Extended heatwave/bushfire smoke degrades camera & lidar reliability, forcing route restrictions.
2. Smart-city IoT sensor network, Ho Chi Minh City
 - **[B]** Main low-cost sensor supplier faces export restrictions or bankruptcy.
 - **[C]** Mobile operator increases IoT SIM/data fees x10.
 - **[R]** New data-localization regulation requires all sensor data be stored/processed in-country.
 - **[E]** Severe monsoon flooding damages street-level sensor nodes and gateways across large areas.
3. Telework / videoconferencing, Munich
 - **[B]** Main videoconferencing SaaS provider suffers a prolonged (> 5 days) outage.
 - **[C]** Regional power crisis leads to rolling electricity restrictions affecting home offices and data centers (electricity costs x10).
 - **[C]** Gas supply disruption sharply raises heating costs, changing the home-vs-office energy calculus.
 - **[R]** New labor regulation grants a “right to disconnect” and caps home-office days.
4. Generative-AI assistant for citizen services, Bogotá
 - **[B]** Foreign model provider restricts or cuts off API access due to geopolitical/export tensions.
 - **[C]** GPU/inference cloud costs spike x10 amid a global AI chip shortage.
 - **[R]** New AI regulation mandates human review of every automated decision touching a citizen, erasing most automation gains.
 - **[R]** High-profile chatbot error (wrong benefits info given to citizens) triggers public backlash and a service moratorium.
5. Cloud gaming / game streaming, Seoul
 - **[B]** Main GPU supplier for data centers faces export restrictions or bankruptcy.
 - **[C]** Regional energy crisis spikes electricity costs x10.
 - **[R]** New environmental regulation caps water/energy use for data centers, blocking local server expansion.
 - **[T]** Undersea/cross-border cable damage severely degrades latency nationwide.
6. Connected/precision agriculture sensors, Punjab
 - **[B]** Main low-cost sensor supplier faces export restrictions or bankruptcy.
 - **[C]** Diesel/electricity costs for irrigation pumps spike x10.

- **[T]** Rural mobile coverage becomes spotty, breaking real-time sensor connectivity.
 - **[E]** Severe drought / erratic monsoon disrupts the water availability the sensors are meant to optimize.
7. Smart electricity metering, Johannesburg
- **[B]** Metering chip/hardware supplier faces export restrictions or bankruptcy.
 - **[C]** National utility enters severe load-shedding/rolling blackouts, undermining the “smart” grid’s real-time value.
 - **[R]** New regulation mandates locally-hosted, auditable metering data, forcing costly infrastructure changes.
 - **[T]** Cyberattack targets the smart-meter network, forcing a shutdown of remote read/billing systems.
8. Mobile-based telemedicine, Kigali
- **[B]** Main smartphone/device supplier for community health workers faces export restrictions or bankruptcy.
 - **[C]** Cloud hosting costs for patient records spike x10.
 - **[R]** New data-protection regulation requires patient health data stay in-country.
 - **[T]** Mobile network coverage becomes (even more) spotty in rural areas.