Case Study

A Leading Turkish CSP Achieved 30% Faster Disaster Recovery with Star Suite During the 2023 Türkiye Earthquake

PROBLEM STATEMENT

On February 6, 2023, a 7.8-magnitude earthquake struck south-central Türkiye at 4:17 a.m. local time, followed by a second **7.5-magnitude earthquake** centered in Elbistan. The disaster damaged an area of nearly **38,600 square miles,** affecting fibers and base stations across a region covering **15.6% of the population.** In a crisis of this scale, **communication is a life-saving factor** that depends entirely on service continuity.

All service providers in the region suffered service interruption as seismic activity broke fiber lines and disabled base stations. Harsh field conditions made intervention difficult, and operators urgently needed to know **how many services and customers were impacted** and how to prioritize remediation. The CSP achieved **full system recovery** and resolved connectivity, traffic, and capacity issues in the shortest time possible through **Star Suite's t0-t1 report and root cause analysis.**

About the Communication Service Provider

One of the three major communications service providers in Türkiye, offering voice, data, TV, and value-added consumer and enterprise services across mobile and fixed networks. Serves **40 million+ subscribers with a 55% market share.**

*While alarms normally averaged **70 per minute,** the first earthquake generated **16,480 alarms within 2 minutes,** followed by **250 alarms every minute.** Fiber and trail interruptions that normally averaged **102 and 583 per day** spiked to **70 fiber and 604 trail interruptions within the first 2 minutes** alone.*

OBJECTIVE

Star Suite's t0-t1 reporting was created to reveal the true impact of a disaster within seconds, even when alarm volumes overwhelm traditional systems:

- Separates pre-existing alarms (t0) from event-driven alarms (t1) instantly
- Triple-correlates network topology, alarms, and performance across all layers and domains
- Notifies NOC, operations, planning teams, and partners within minutes of the event
- Prioritizes recovery on the trails with the greatest service impact and reroutes services where possible
- Generates physical and logical layer reports automatically within a minute
- Enables custom, scheduled reporting for any time interval

With alarm volumes surging that high, **traditional umbrella management systems could not handle the load,** making it easy to overlook critical events and difficult to determine which alarms already existed at t0 versus which occurred after the earthquake (t1). **Every second of delay after an earthquake is vital and directly affects human life** — even alarms processed without delay still required significant effort to distinguish t0 from t1. A faster, clearer way of seeing the big picture was needed to **respond quickly and identify root causes.**

Case Study

A Leading Turkish CSP Achieved 30% Faster Disaster Recovery with Star Suite During the 2023 Türkiye Earthquake

SOLUTION

Helping service providers reveal the impact of disaster in seconds
Star Suite's t0-t1 reports are specially designed to address complex networking problems that surface just after a natural disaster, helping service providers **pinpoint pain points** during the most critical minutes.

The unique approach of t0-t1 reports is based on **root cause analysis of the Star Suite service assurance platform. Triple correlation** between network topology, alarms, and performance across all layers and domains is the fundamental basis for **troubleshooting.**

ROOT-CAUSE-BASED t0-t1 ANALYSIS

- Correlates **network topology, alarms, and performance** across all layers and domains
- Distinguishes **pre-existing alarms (t0)** from **event-driven alarms (t1)** in real time
- Forms the **fundamental basis for troubleshooting** during crisis-scale events

AUTOMATED REPORT LIBRARY

A set of intuitive reports is generated automatically within a minute, covering both physical and logical layers of the network:

- **Fiber / trail outage report**
- **Fiber attenuation report**
- **Region-based fiber outage report**
- **Segment-based (enterprise, backbone) trail outage report**

RAPID NOTIFICATION & FIELD RESPONSE

- System automatically notifies **NOC, operations, and planning teams within minutes** of the earthquake
- Operations teams **prioritize the most impacted trails** and reroute services where alternatives exist
- Field teams are **deployed directly to the most critical sites** to initiate fixes

Not a single fixed report, but a living library — generated automatically, customizable on demand, and ready whenever the network needs answers fast.

Beyond the standard report library, **many additional reports are available directly on the UI.** When admins need reports for a **particular time period or dataset,** flexible options let users simply generate **custom reports aligned with their specific preferences.** Once scheduled, these reports can be produced at **any interval** — weekly, monthly, or otherwise — removing the need for manual, one-off report generation.

Case Study

A Leading Turkish CSP Achieved 30% Faster Disaster Recovery with Star Suite During the 2023 Türkiye Earthquake

OUTCOMES

Star Suite's reporting was created to reveal the true impact of a disaster within seconds, even when alarm volumes overwhelm traditional systems:

- Separates pre-existing alarms (t0) from event-driven alarms (t1) instantly
- Triple-correlates network topology, alarms, and performance across all layers and domains
- Notifies NOC, operations, planning teams, and partners within minutes of the event
- Prioritizes recovery on the trails with the greatest service impact and reroutes services where possible
- Generates physical and logical layer reports automatically within a minute
- Enables custom, scheduled reporting for any time interval

*With alarm volumes surging that high, **traditional umbrella management systems could not handle the load,** making it easy to overlook critical events and difficult to determine which alarms already existed at t0 versus which occurred after the earthquake (t1). **Every second of delay after an earthquake is vital and directly affects human life —** even alarms processed without delay still required significant effort to distinguish t0 from t1. A faster, clearer way of seeing the big picture was needed to respond quickly and identify root causes.*

ABOUT TECHNARTS

TechNarts is a software development company founded in 2007, focused on creating measurable impact through innovation, strong engineering culture, and deep technical expertise. With over 18 years of experience in advanced technologies and proven methodologies, TechNarts delivers tailor-made software solutions and services across complex IT infrastructures.

Specializing in OSS/BSS solutions and Track & Trace systems, TechNarts operates across multiple verticals, with a strong focus on telecommunications. The company designs and delivers purpose-built solutions that address real operational challenges and create long-term value at scale.