DIGITAL OXYGEN
Management Consultants

2G/3G Sunset:
How To Keep Your IoT Devices Connected

Check If You Are Affected. Understand Your Options. Keep Your Devices Connected.

June 2021

DIGITAL OXYGEN
Management Consultants

2G and 3G sunsets impact everyone with mobile connected IoT devices. It is important to understand potential implications and risks for your business.

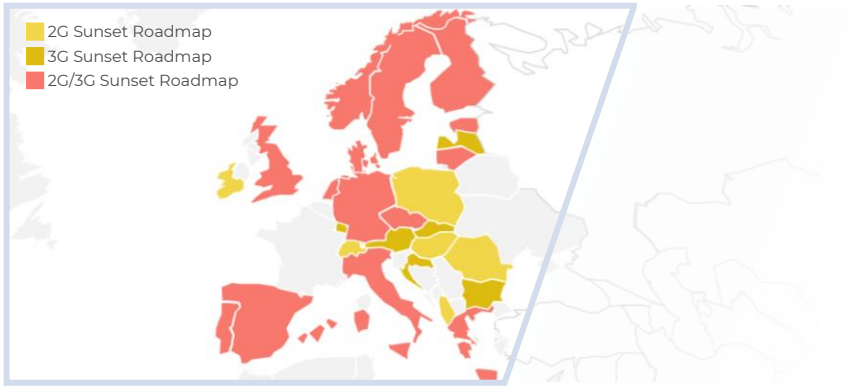
Situation and Challenge

2G/3G Sunsets Are Happening

2G and 3G Sunset Roadmaps

- Announcement of 2G and 3G sunsets by various network operators
- Sunset roadmaps placed in different countries with varying timelines

2G/3G Sunset: Announced Roadmaps*



What Does That Mean For Your Business?

Affected Companies by Network Sunsets:

All companies with connected devices communicating on 2G or 3G need to be aware of current network sunset roadmaps – especially concerning specific regions of their device deployment areas and individual connectivity providers.

Implications of Network Sunsets:

Network sunsets cause device deployment problems, service disruptions and require additional effort for maintenance and module switches.
In a worst-case scenario, connected device might go dark unexpectedly.

To keep your devices connected, it is crucial to plan ahead and future-proof your modules in advance.

Key Questions

1. **Do You Have a Problem?**
2. **What Is Your Problem?**
3. **How Do You Solve Your Problem?**

*Exemplary visualization based on announced sunset dates for 2G or 3G by at least one operator per country.
Source: Emnify, IoT

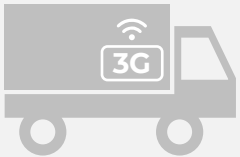
DIGITAL OXYGEN
Management Consultants

A sudden 2G or 3G sunset has significant risks for your business: From loss of communication and data, to potential revenue losses and cost increases.

2G/3G Sunset: Business Risks and Challenges

Your IoT Devices Operating on 2G or 3G

2G or 3G Sunset
Of Your Operator



Business Risks of 2G or 3G Sunset

Loss of Communication

Once your devices go dark, you will lose all information about their location, battery or monitoring status and device analytics.

Example: Fleet management relies on real-time communication. Unconnected trucks will not be trackable, which will make dynamic route planning impossible.

Data Loss

Once devices are unconnected it will be impossible to gather, store or retrieve lost data, which monitors your or your customers' assets.

Example: Predictive maintenance relies on data. If data access is lost, defective equipment cannot be identified, and maintenance services cannot be provided in time.

Partner Lock-In

Fixed contract terms prohibit switching operators on short notice. Similarly, choosing new partners too quickly might result in unfavorable terms.

Example: Even if your operator offers special termination rights in case of a network shutdown – sourcing a new connectivity provider can be a lengthy process.

Service Disruption

Unconnected devices cannot perform their services. That means revenue losses from service disruptions and undeliverable performance guarantees.

Example: Emergency services in elevators and other medical tracking devices will be inoperable once communication is lost – resulting in serious consequences.

Additional Maintenance Effort

In order to reconnect devices, it will be necessary to retrieve devices, schedule down-times or make use case adjustments and module switches.

Example: Armored trucks have highly secured SIM cards. Switching modules requires planning, since cutting into each truck with a cutting torch will need down-time.

DIGITAL OXYGEN
Management Consultants

We support your 2G/3G sunset challenges: From assessing your problem to keeping your devices connected in the long run.

2G/3G Sunset: Structured Solution Approach

2G/3G Sunset

Do I Have A Problem?

Definition of Problem Extent Based on Data Patterns

What Is My Problem?

Identification of Use Cases and Causes for High Data Traffic

How Do I Solve My Problem?

Presentation of Options To Avoid Service Disruption

Measures

Exemplary Questions

Identification Affected Devices
- How many IoT devices are active? Where are they deployed? Are they mobile or stationary?
- What module types are installed? What are the device connectivity needs?

Identification Critical Devices
- What are the data pattern of devices? Which data patterns are critical and non-critical?
- How much data is transmitted? What kind of data? How frequently is data transmitted?

Exemplary Questions

Connectivity Needs 1: Use Cases
- What are the specific use cases of all critical devices? What is their business purpose?
- How can devices be clustered based on their identified use case?

Connectivity Needs 2: Exceptions
- What is the reason for critical data traffic?
- Do outliers in data consumption result from exceptions (e.g. software updates) or original device purpose?

Exemplary Questions

Identification of Strategic Options
- How can device connectivity be ensured?
- How many devices require use case adjustments?
- How many devices require module switches to future-proof connectivity?

Evaluation of Options
- What is the best options regarding costs, effort, fit to company goals?

Measures and Timeline
- What are the specific measures and timeline for implementation?

Results

You know **which devices are affected from a 2G/3G sunset**.

You know **the requirements that connectivity has to cover**.

You know **your options to keep your devices connected**.

Companies have different exemplary options when dealing with a 3G shutdown – each of them with different implications.

3G Sunset: Exemplary Strategic Options

Strategic Options to Future-Proof Your Business

The Short-Term Fix
Operator Switch

Avoid Immediate 2G/3G Sunset

Consider switching to an alternative operator:

- If a different operator will maintain the 2G or 3G network for a **longer period of time**
- If a different operator will maintain 2G/3G in your **device deployment location**

Keep in mind, that even with other operators you might face network phase outs in the future again.

The Medium-Term
Use Case Adjustment

Fallback onto 2G Network

After a 3G shutdown, connected devices will fall back onto 2G by default:

- **98%** of 3G modules can function **on a 2G** network as well
- Some use case will **require adjustments** for outlier data patterns (like configuration of smaller updates, or timed data uploads)

If a 2G sunset is not planned for your region and by your operator, it might make sense to simply fallback to 2G.

The Future-Proof Solution
Module Switch

Switch to Future-Proof Module

When switching devices modules, it is important to consider the following questions:

- What type of **network connectivity** do you need for your use cases? (NB, LTE, 5G)
- What is the **timeline and budget** for network migration? (highly secured SIM inside devices require down-time and high effort to extract)
- Can you avoid device recalls by including module switches into **regular maintenance cycles**?
- Do you want to stay with the same operator or are you looking for more **favorable contracts**?

Switching connectivity modules requires effort, but it also future-proofs your connectivity.

Digital Oxygen understands the IoT connectivity market from all angles, and we support our customers to find the best suitable solution.

Digital Oxygen: Experience And Know-How

We know
2G/3G Sunset
from **Every Angle**

3G Sunset
Operator Perspective

- **20 years of Telco** experience
- **Support of 3G sunset** at one of largest German operators
- Extensive **operator network and cooperations**
- In-depth knowledge of **operator business and mobile network technology**

3G Sunset
IoT Company Perspective

- **12 years of IoT and M2M** experience
- Experience in **migration strategies** facing 2G/3G shutdown
- **M2M project experience** and extensive **network of IoT vendors**
- Knowledge of all stakeholders involved in IoT projects

3G Sunset
Connectivity Strategy

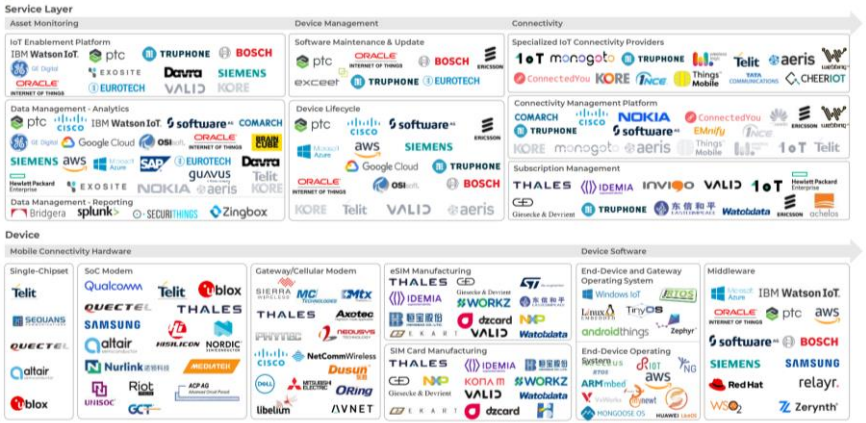
- Extensive expertise in long-term **connectivity solutions, pain points and success factors**
- In-depth knowledge of **all relevant technical solutions** to connect devices
- Various **connectivity projects** – for M(V)NOs, OEMs and IoT vendors

We are renowned telco and connectivity experts – both in the fields of strategy development and hands-on implementation.

Digital Oxygen: IoT and Connectivity Expertise (Examples)

IoT Mobile Connectivity Landscape

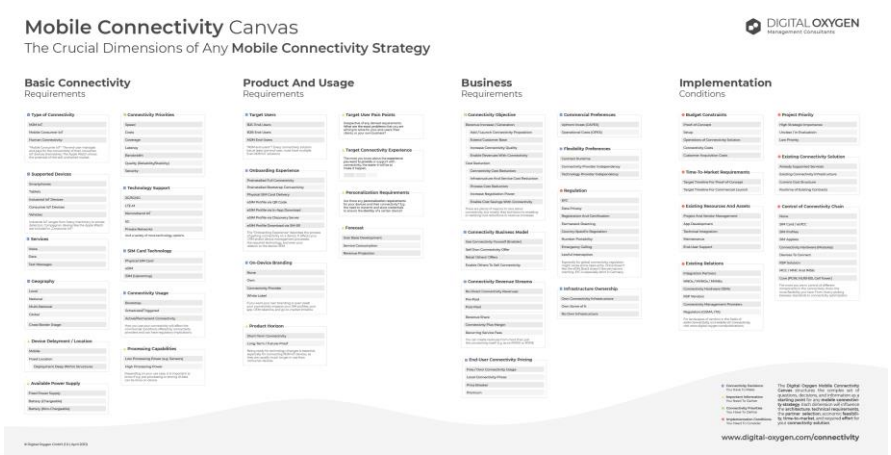
Enabling Connectivity for IoT Devices



Download

Mobile Connectivity Canvas

Crucial Dimensions of Mobile Connectivity Strategy



Download

DIGITAL OXYGEN
Management Consultants

We are telco experts and trusted partners for clients worldwide with industry knowledge, and the management capabilities to deliver your projects.

Digital Oxygen: Team and Selected Clients

Team

Axel Meiling
Partner

- 12 years of **IoT experience**
- 20 years of **telco experience**
- 10 years **consulting experience**

Michel Zwijnenberg
Telco Advisor

- 20 years of **telco experience**
- Founder of **largest IoT MVNE** in Netherlands

We are
telco experts.

Digital Oxygen combines extensive industry knowledge, technical know-how, and consumer-side telco experience.

We enable great
digital products.

We have launched successful digital products all around the world. From the first strategy meeting to the final, exciting product.

We are
trusted partners.

Companies of all sizes trust Digital Oxygen with their strategy and product challenges: From start-ups to renowned multinationals.

Selected Clients

DIGITAL OXYGEN
Management Consultants

Weißenburger Str. 25
81667 Munich
Germany

www.digital-oxygen.com

Let‘s Have A Chat:

Axel Meiling
Partner

Email: ame@diox.de
Mobile: +49 151 / 5824 3390