

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

**Check If You Are Affected. Understand Your Options. Keep Your Devices Connected.** June 2021



# 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?



# 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.

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### **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.







# 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?	What Is My Problem?	How Do I Solve My Problem?
	Definition of Problem Extent Based on Data Patterns	Identification of Use Cases and Causes for High Data Traffic	Presentation of Options To Avoid Service Disruption
Measures	<ul> <li>Exemplary Questions</li> <li>Identification Affected Devices</li> <li>How many IoT devices are active? Where are they deployed? Are they mobile or stationary?</li> <li>What module types are installed? What are the device connectivity needs?</li> </ul>	<ul> <li>Exemplary Questions</li> <li>Connectivity Needs 1: Use Cases</li> <li>What are the specific use cases of all critical devices? What is their business purpose?</li> <li>How can devices be clustered based on their identified use case?</li> </ul>	<ul> <li>Exemplary Questions</li> <li>Identification of Strategic Options</li> <li>How can device connectivity be ensured?</li> <li>How many devices require use case adjustments?</li> <li>How many devices require module switches to future-proof connectivity?</li> </ul>
	<ul> <li>Identification Critical Devices</li> <li>What are the data pattern of devices? Which data patterns are critical and non-critical?</li> <li>How much data is transmitted? What kind of data? How frequently is data transmitted?</li> </ul>	<ul> <li>Connectivity Needs 2: Exceptions</li> <li>What is the reason for critical data traffic?</li> <li>Do outliers in data consumption result from exceptions (e.g. software updates) or original device purpose?</li> </ul>	<ul> <li>Evaluation of Options</li> <li>What is the best options regarding costs, effort, fit to company goals?</li> <li>Measures and Timeline</li> <li>What are the specific measures and timeline for implementation?</li> </ul>
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



### 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 ohase outs in the future again.



### 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.



### 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 futureproofs 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

Asset Monitoring		Device Management		Connectivity				
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### **Mobile Connectivity Canvas**

Crucial Dimensions of Mobile Connectivity Strategy

#### Mobile Connectivity Canvas

The Crucial Dimensions of Any Mobile Connectivity Strategy

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# 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.















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## Let's Have A Chat:



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