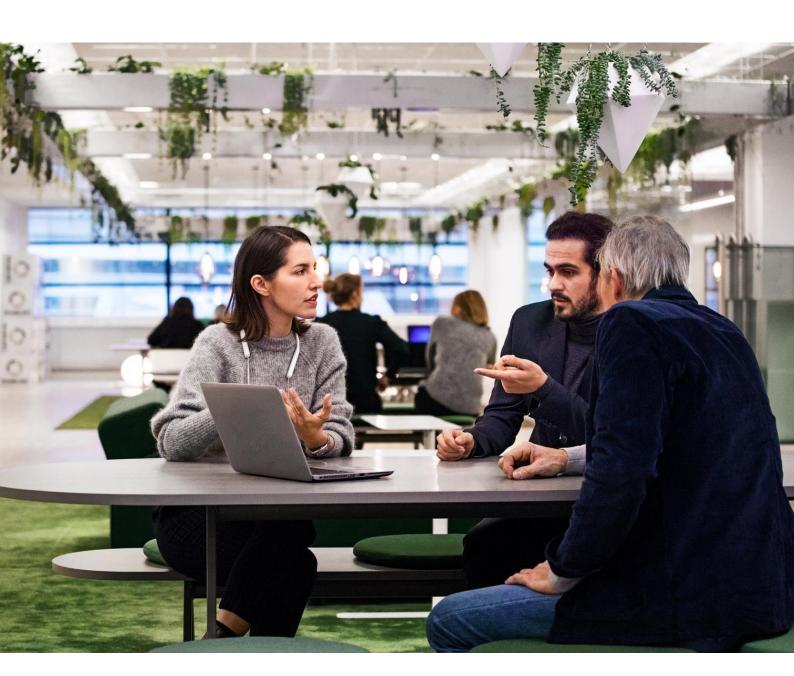


IoT Customer Handbook

A guide for easier support



What is the customer handbook?

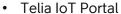
In case you need our support, we have compiled useful information on this handbook to make your interaction with us easier and smoother. Depending on your IoT service, the process for incident reporting varies. If you have specific KPI agreements with us, this is specified in your contract appendix.

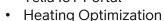
This document covers the support of Managed IoT Connectivity, IoT Platform & Solutions and Smart Public Transport.

To ensure you have the latest version of the IoT Customer Handbook, please see the current version on page <u>Telia IoT Customer Handbook</u>.

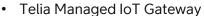


IoT Platform & Solutions:









· Telia IoT Monitoring



IoT Connectivity:

Managed IoT connectivity

NB-IoT and LTE-M Starter Kits

IoT Connect Starter Kit

Pre-packaged connectivity packs



Smart Public Transport:



- · Journey Information
- Ticket validation
- · Internet onboard
- Voice over IP (VoIP)
- Eco-Driving
- Passenger count, Driver alarm
- Video surveillance
- Driver ID, Tachograph data management
- Breathalyzer
- Vehicle climate manager
- · Message push
- Positioning



Incident Management

To keep your IoT service running smoothly we provide proactive customer support along with digital tools so you can do your own troubleshooting. We monitor our services 24/7 and you can reach out to us through our online portals at any time. Additionally, during office hours, we are also accessible via phone and email.

We provide support in English and Swedish. Further down in the Checklist-section you can read more on what information we need from you when you need to report a ticket to us.

IoT Connectivity, Platform & Solutions:

Phone: +46 (0)771 100 235

Monday to Friday 08:00 to 18:00 CET (24/7 for connectivity)

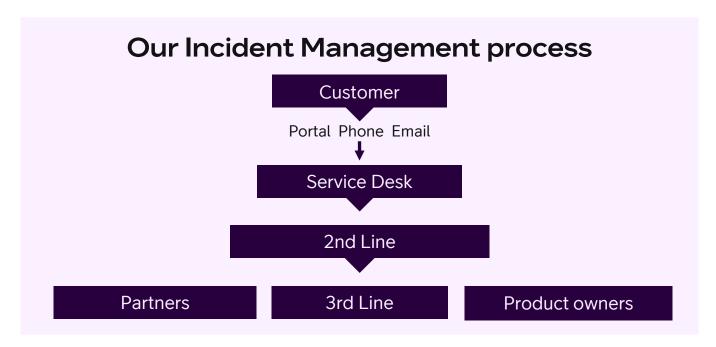
Email: global-iot-support@teliacompany.com

Smart Public Transport (SPT):

Phone: +46 (0)90 183 928

Monday to Friday 08:00 to 17:00 CET

Email: enterprise-iotsupport@teliacompany.com



You can submit and track your ticket 24/7 in <u>Telia IoT portal</u>, or <u>Telia IoT Service Portal</u>. You will receive an acknowledgement when you create a ticket. If the subject of the ticket is critical it is important to follow up with a phone call. Use the relevant number for each service above. If you email or call us, please copy the checklist and fill in as much information as possible regarding the incident. The more we know, the quicker we can start trouble shooting and find a solution for you.

You must submit one Ticket for each individual Incident or request to Service Desk.

If you are a Managed IoT Connectivity customer and need to report a ticket with critical severity, we are available 24/7. Contact your Key Account Manager for more information about what is included in your specific support agreement.



Disturbance information

We will keep you informed about incidents or disturbances in our services. Information about disturbances to the Telia mobile network are available at:

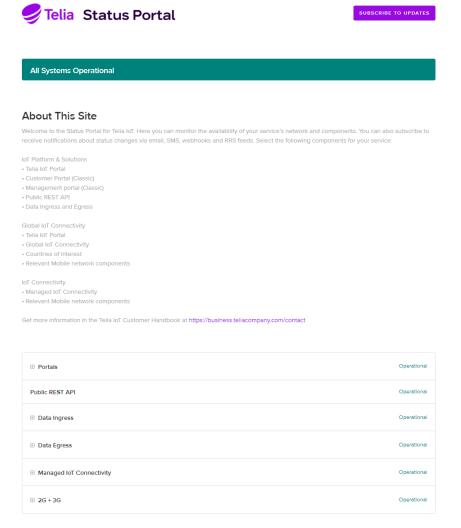
Sweden https://www.telia.se/foretag/driftinformation/mobiltelefoni
 → Finland https://www.telia.fi/yrityksille/asiakastuki/viat-ja-hairiotilanteet/hairiotiedotteet
 → Denmark https://www.telia.dk/privat/hjalp/dakning-og-drift/driftsinformation/
 → Norway https://www.telia.no/dekning/dekningsutfall/

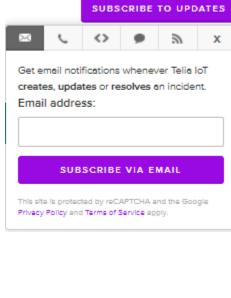
Managed IoT Connectivity and IoT Platform & Solutions:

Information about incidents can be found in the <u>Telia IoT Status Portal</u>. Please subscribe for updates and we will notify you according to your preference (we support email, SMS, webhooks and RSS feeds).

Telia IoT Status Portal:

If you are a Managed IoT Connectivity, IoT Platform & Solutions or Smart Public Transport customer you will see an overall view of the availability of our components. Please subscribe for updates and we will notify you according to your preference when there is a disturbance or upcoming maintenance work that could affect your services.







Severity matrix

Once you have reported your support ticket to us, we prioritize the incident according to the general severity matrix, as seen below. If the severity changes during the lifecycle of an incident, the initial severity level can change.

Severity Level	Description		
Critical	IoT Platform & Solutions The Service is down or is subject to a major malfunction, resulting in all or substantially all users or related systems being unable to perform normal tasks.	Managed IoT Connectivity Complete breakdown or outage of the Service or a critical function that renders the system unusable.	Smart Public Transport The Service is down or is subject to a major malfunction impacting at least 20% and a minimum of 15 vehicles within the same traffic area, resulting in work stop. The reported issues need to relate to the same fault type.
High	IoT Platform & Solutions Critical loss of Service functionality or performance resulting in majority of users or related systems being unable to perform normal tasks.	Managed IoT Connectivity Significant degradation of the Service or a critical function that, while not rendering the system completely unusable, considerably limits one or more of its critical functions.	Smart Public Transport Loss of Service functionality or performance resulting in more than 10% and a minimum of 10 vehicles within the same traffic area being unable to perform normal tasks. The reported issues need to relate to the same fault type.
Medium	IoT Platform & Solutions Moderate loss of Service functionality or performance resulting in multiple users or related systems being impacted when performing normal tasks	Managed IoT Connectivity A moderate degradation of the Service or some functionality that causes some loss of service and does limit its functions.	Smart Public Transport Loss of Service functionality or performance resulting in more than 5% and a minimum of 5 vehicles within the same traffic area being impacted when performing normal tasks. The reported issues need to relate to the same fault type.
Low	IoT Platform & Solutions Minor loss or deterioration of Service functionality.	Managed IoT Connectivity A minor degradation of the Service or some functionality that causes no or minimal loss of service and does not limit its functions.	Smart Public transport Minor loss or deterioration of Service functionality.

If you are a Smart Public Transport customer and want to report an incident for a traffic area smaller than specified above, Telia Support will set the priority in dialogue with you.

Response and update frequency

We will continuously inform you on the progress of your tickets and measures taken. The notifications are sent to you either through your IoT portal, by email, text message, or by phone. The higher severity of the ticket, the higher we will prioritize it.



Escalations

If you are not satisfied with the service, the prioritization or progress of the troubleshooting, you can request an escalation. All communication connected to the escalation goes through Telia Service Desk.

Please request the escalation in the ticket you want to escalate and make sure you provide the reason for the request and other relevant information. If the escalation request is fulfilled an Escalation manager will be assigned to your ticket with the purpose of ensuring a speedy progress and incident resolution.

Customer Portal Phone Email Service Desk Escalation Manager



Problem & Change Management

Telia's network is subject to numerous changes each day which might have a different impact on the connectivity of your Services. All changes to functions and services in operation shall be implemented in a controlled process.

If we encounter recurring incidents, we strive to find the root cause and solve the problem either by implementing a temporary workaround or a permanent solution. All problem records are documented and evaluated for continuous improvements.

IoT Platform & Solutions

The Telia IoT Platform is subject to regular updates and maintenance. Changes are announced in advance on Telia IoT Status Portal.



Service window for new software release of the IoT Platform: Tue 10.00 - 14.00 CEST Service window for service-affecting infrastructural changes: Wed 00.00 - 04.00 CEST

Managed IoT Connectivity

Changes with risk of service impact are announced in advance on Telia IoT Service Portal and on Telia IoT Status Portal. Depending on the impact of the change we may also send information to the email address you have provided.

Smart Public Transport

Changes to functions and services in operation shall be implemented in a controlled process. Changes are documented, and where applicable, tested before deployment. We always strive to inform you as a customer when a change might cause significant disturbance.



Checklist

The more information you can provide on an incident when raising a ticket, the faster we can understand and resolve your incident. If you contact us via your IoT portal, you'll get guidance on what information to provide there.



A tip is to copy the questions or information below into your ticket or an email and give your answers to the text in cursive.

Managed IoT Connectivity checklist

All types of issues

Contact person: (E-mail / phone)

Fault description: (Be as detailed as possible)

Location of the device(s): (If possible exact address or GPS coordinates)

Type of device(s): (Specify brand and model)

Date & time of attempt(s): (Including time zone)

Has the service been working before?: (Yes or no)

Action taken to resolve the issue: (Describe what you have already tested; such as restarting devices,

checking coverage, try SIM in another device, check APN or

configuration settings)

Data related

IMSI(s): (Can be found in Telia IoT Service Portal)

IP address: (Can be found in Telia IoT Service Portal)

APN: (Can be found in Telia IoT Service Portal)

SMS related

(In general, sending operator should be Telia Company as the sending number should raise the ticket)

Sending number / Short code: (Eg. 1234)

Sending MSISDN: (Eg 45371xxxxxxxxxx)

Sending operator: (Eg Telia Company)

Sending from account: (Yes or no)

Target MSISDN: (Eg 45371xxxxxxxxxx)

Target operator: (Eg Telia Company)



IoT Platform & Solutions checklist

All types of issues

Contact person: (E-mail / phone)

Fault description: (Be as detailed as possible, i.e. is your device connected?, when

was the last time the device sent data?, has the device ever sent

data?)

Action taken to resolve the issue: (Describe what you have already tested; such as restarting devices,

checking coverage, try SIM in another device, check APN or

configuration settings)

Connectivity related

Type of connectivity: (Specify if the problem affects data, SMS or Voice)

How many SIMs/Devices are affected? (Add quantity)

Last time service worked: (Add date and time including time zone)

Location(s): (If possible exact address or GPS coordinates)

SIM using localization or roaming? (Specify if localization or roaming are used)

Fixed or moving device(s)? (Specify if fixed or moving)

Type of device(s): (Specify brand and model)

IMSIs or Device ID: (Eg 45371xxxxxxxxxx)

Invoice related

Invoice reference ID: (Eg R6-xxxxxxxxxx)

API related

Type: (Specify if REST (HTTP), Webhook (HTTP), Push to AWS

IoT Core (MQTT), Push to Azure Event Hub (AMQP), or other)

Managed VPN related

VPN: (Specify what VPN is affected)

Portal

Type of issue: (Specify if performance, access, or other)



Smart Public Transport checklist

All types of issues

Title: (Severity, Company, Vehicle number and short description)

Company: (Name)

Contact person: (E-mail / phone)

Fault description: (Be as detailed as possible)

Service affected: (Specify service)

Incident start: (Date and Time Including time zone)

Incident end: (Date and Time Including time zone, or state "still ongoing")

Specify the last time service worked: (Date and time incl time zone)

Action taken to resolve the issue: (What has been done, i.e device restart, coverage check, put

SIM in another device, APN check, configuration settings)

Type of device / MIIPS: (Specify brand and model)

How many vehicles are affected? (Add quantity)

How many vehicles in the Traffic area? (Add quantity)

Traffic area? (Specify the traffic area)

MAC address: (0009d80XXXXX)

Inventory number: (Customer specific)

Invoice related

Invoice reference ID: (Eg R6-xxxxxxxxx)



Appendix 1 – definitions

Change	The addition, modification, or removal of anything that could have a direct or indirect effect on services.
Incident	An unplanned interruption to a service or reduction in the quality of a service.
Life cycle	The full set of stages, transitions, and associated statuses in the life of a service, product, practice, or other entity.
Monitoring	Repeated observation of a system, practice, process, service, or other entity to detect events and to ensure that the current status is known.
Problem	A cause, or potential cause, of one or more incidents.
Support team	A team with the responsibility to maintain normal operations, address users' requests, and resolve incidents and problems related to specified products, services, or other configuration items.

