



COMPANY PRESENTATION

A NEW STANDARD FOR IOT

Cologne, 2022

1NCE IS A DISRUPTIVE IOT CONNECTIVITY-FOCUSED PROVIDER

DISRUPTIVE PROPOSITION

- Exceptional value: 1NCE IoT Flat Rate – €10 for 10 years connectivity
- All necessary features included (SIM card, Data, SMS etc.)
- All-inclusive pricing and no hidden costs
- Fastest growing player in the market, outpacing competitors

IOT PURE PLAY

- Focus on cellular IoT connectivity only
- All products and services developed for IoT customer
- Management Team with 120+ years of M2M and IoT experience
- Company driven by disruptive mindset

ABOUT 1NCE

Founded:	2017
Team:	100+
Investors:	Alexander P. Sator (Lead Investor), Deutsche Telekom AG
Offices:	Cologne Hamburg Riga London Paris Amsterdam Rome Warsaw Hong Kong

TODAY'S IOT CHALLENGES

IoT Characteristics

1



Deployed extensively / globally

2



Large device estate

3



Low value devices / assets

4



Long device lifecycles

Customer Pain Points



Limited or unreliable coverage



High maintenance



High connectivity costs (OPEX)



Traditional Cellular Unlicensed LPWA Licensed LPWA



Future technology uncertainty

1NCE MAKES HIGH-QUALITY IOT CONNECTIVITY SIMPLE AND COST-EFFECTIVE

1NCE Proposition

1 Global coverage

- ✓ 1NCE connectivity available in 100+ countries globally
- ✓ Access to multiple networks in each country
- ✓ No additional charges for roaming

2 Ease of use

- ✓ One SIM covers all your needs – with no SIM activation needed
- ✓ Manage connection via API or Connectivity Management Platform
- ✓ No minimum order, order on-demand

3 Lowest cost

- ✓ Exceptional value 10 EUR for 10 years 1NCE IoT Flat Rate
- ✓ All features already included (Data, SMS, SIM Card, Data Streamer, API, Data Management Tools etc.)
- ✓ No hidden costs – TCO friendly

4 Multi-bearer support

- ✓ Seamless support of 2G, 3G, 4G, LTE-M and NB-IoT
- ✓ Optimized for multi-mode set-ups (e.g. combine 2G with NB-IoT)
- ✓ Allows for seamless transition between radio-standards

A SUITE OF SERVICES TO MEET YOUR REQUIREMENTS



STANDARD: INCE IoT Flat Rate – All-inclusive for 10 EUR

500 MB	✓	250 SMS	✓	SIM card	✓
OpenVPN	✓	REST API	✓	Data Streamer	✓
Connectivity Management Platform	✓	APN	✓	Connectivity Suite	✓

✓
**Coverage in
100+ countries**

10 EUROS
FOR **10** YEARS
FLAT RATE

FLEXIBILITY: Automated top-up as your use case demands it

ADDITIONAL OPTIONS:

+ 2 EUR
+ eSIM (MFF2)

+ 2 EUR
+ Blockchain on a SIM

+ 0 EUR
+ China+ (local coverage)

1NCE IOT FLAT RATE INCLUDES ALL NECESSARY COSTS FOR IOT CONNECTIVITY

1NCE PRICING MODEL

One time fee only: **1NCE IOT FLAT RATE**

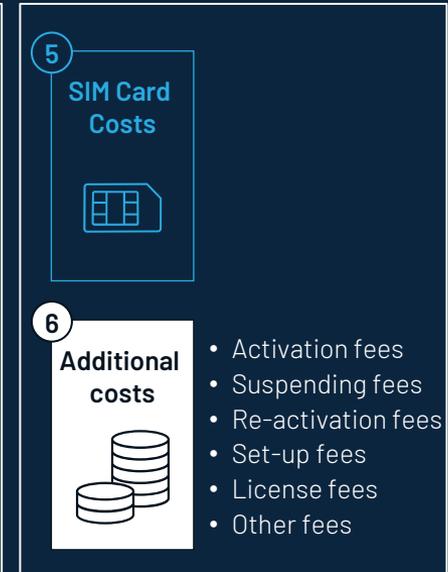


Traditional pricing structure

Recurring fees



One time fee



INCE COVERAGE

ALREADY AVAILABLE IN MORE THAN 100 COUNTRIES



COVERAGE IN 100+ COUNTRIES WITH RELIABLE COVERAGE FOR MAINLAND CHINA, HONGKONG, MACAO, TAIWAN

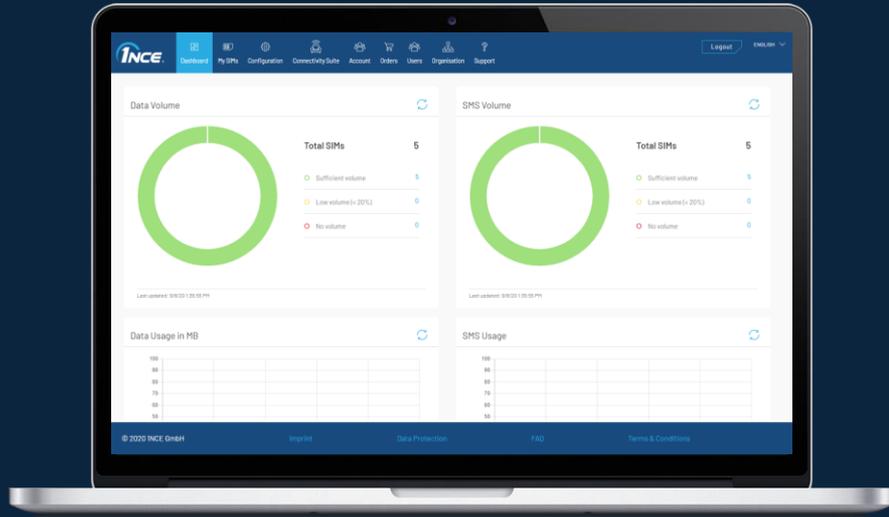


Coverage powered by



CONNECTIVITY MANAGEMENT PLATFORM

ALL REQUIRED FUNCTIONS AT A GLANCE



- Monitor and control remaining volume and activation periods
- Manage account settings such as billing address or contact details
- Create user profiles or sub organizations
- Purchase additional SIM cards
- Integrate all functions into external system via REST API
- Get real-time data via Data Streamer
- Onboard your IoT devices easily via Connectivity Suite

ESTABLISHING A NEW STANDARD FOR IOT CONNECTIVITY

FAST AND DISRUPTIVE

- 5,000+ customers won in 3 years
- 5+ million connections
- 100+ team across Europe, Asia and US
- No. 1 IoT Communication Service Provider in Europe (Source: Berg Insight)

*"INCE launched its flat rate life-time connectivity offering for connected devices in 2018 and **has achieved unparalleled growth in the past two years.**"*

Johan Fagerberg, CEO, Berg Insight

RESILIENT

- Trusted partner for Tier-1 players and ecosystem leaders



- **Customer benefit:** World class service and quality as well as robust access to infrastructure

UBIQUITOUS

- Can be used for nearly all IoT applications



"INCE has proven to deliver IoT Connectivity that meets our high expectations in terms of flexibility, reliability and worldwide coverage."

Alberto Falcione, Vice President Sales, **Targa Telematics**

EXECUTIVE MANAGEMENT AND FOUNDERS TEAM

OVER 120 YEARS OF EXPERIENCE IN M2M AND IOT



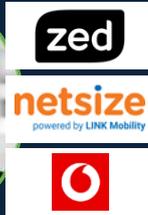
☆☆☆ 5 exits, 3 IPOs



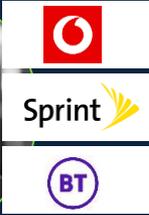
Alexander P. Sator
CEO



Younes Allaki
CTO



Roman Tietze
CSO



Ivo Rook
COO



Jans Jelinskis
MD Latvia / Technical Director

SUPERVISORY BOARD

EXCELLENCE AND ENTERPRISE CLASS LEADERSHIP



Bruno
Jacobfeuerborn



Hagen
Rickmann



Dennis
Nikles



Dr. Alfred
Gusenbauer



Ulrich
Schumacher



Henning
Thieß



Alf Hendryk
Wulf



GE Power

Alcatel-Lucent



STRABAG
TEAMS WORK.



SONY MUSIC

SIEMENS

SR SenoR



CINTERION
a cinterion company



MOTOROLA

SECOND LINE MANAGEMENT

VERSATILE SKILLS IN OPERATIONS AND ENGINEERING

Network Engineering



Dietmar Kohnenmergen



Product



Christoph Brunke



Finance



Ingo Linder



Strategy



Arne Aßmann



Customer Success



Matthias Leopold



Network Operations



Hans-Jörg Johnen



DevOps



Ervins Kampans



Inside & Global Sales



Alwin Crooijmans



Second Line Management team in place **with over 100 years of experience** and **a broad skillset.**

COMPANY DRIVEN BY RESULTS

FAST PRODUCT DEPLOYMENTS AND ONGOING FOOTPRINT EXTENSION



INCE – THE TIER-1 IOT CARRIER: A NEW STANDARD FOR IOT CONNECTIVITY



- Own virtualized **core network** (HLR, EPC)
- Dedicated **billing, CRM and logistics** system
- **Customer Care** and technical support
- Direct **RAN access**, thus faster and more reliable network capabilities
- **All bearer access:** Seamless support of NB-IoT, LTE-M, 5G, 4G, 3G and 2G
- Fully **GSMA, 3GPP** compliant, registered carrier at network authorities, **ITU member**
- **Tier-1 IMSI** guarantees stable network access (no SIM-blocking or denial)
- Price stability and reliability thanks to **Tier-1 wholesale agreement**
- Highest standards for **Quality of Service assurance**
- **Lean platform and network architecture** for IoT pure play
- Fully **digitalized and automated process** for maximum scalability
- Simple **pre-paid price model** made for IoT devices

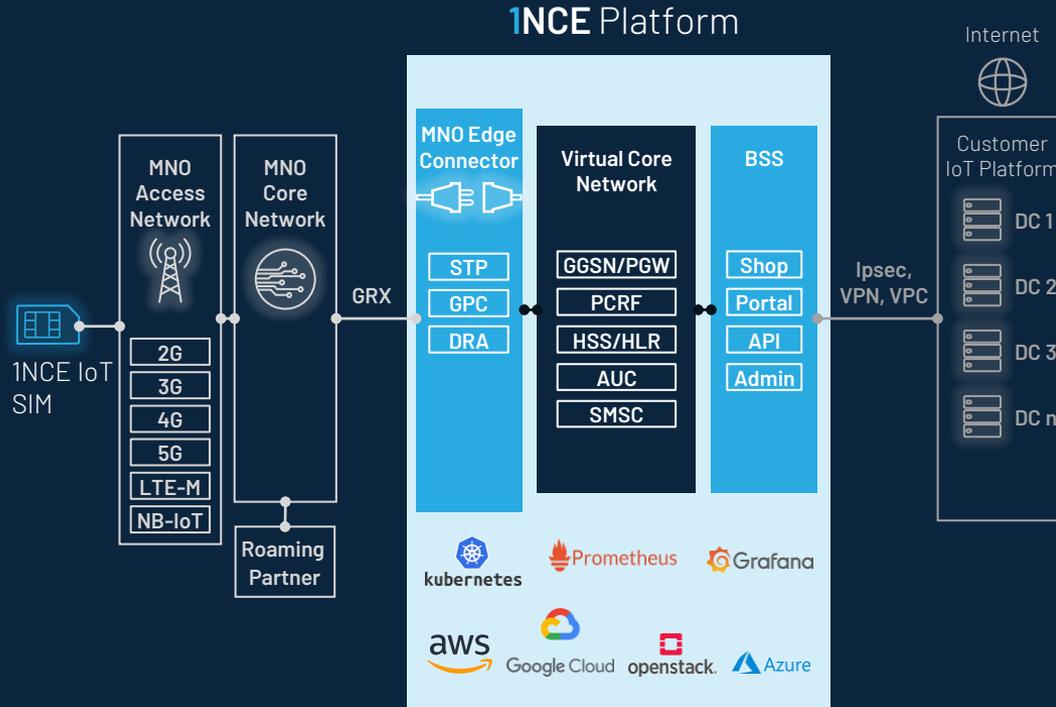
Only a handful of dedicated IoT MVNOs

Local operators (Tier 2 (+x))

Multinational operators (Tier 1)

INCE = IoT Carrier

INCE CLOUD NATIVE NETWORK PLATFORM



CLOUD-NATIVE PLATFORM OPTIMIZED FOR IOT CONNECTIVITY

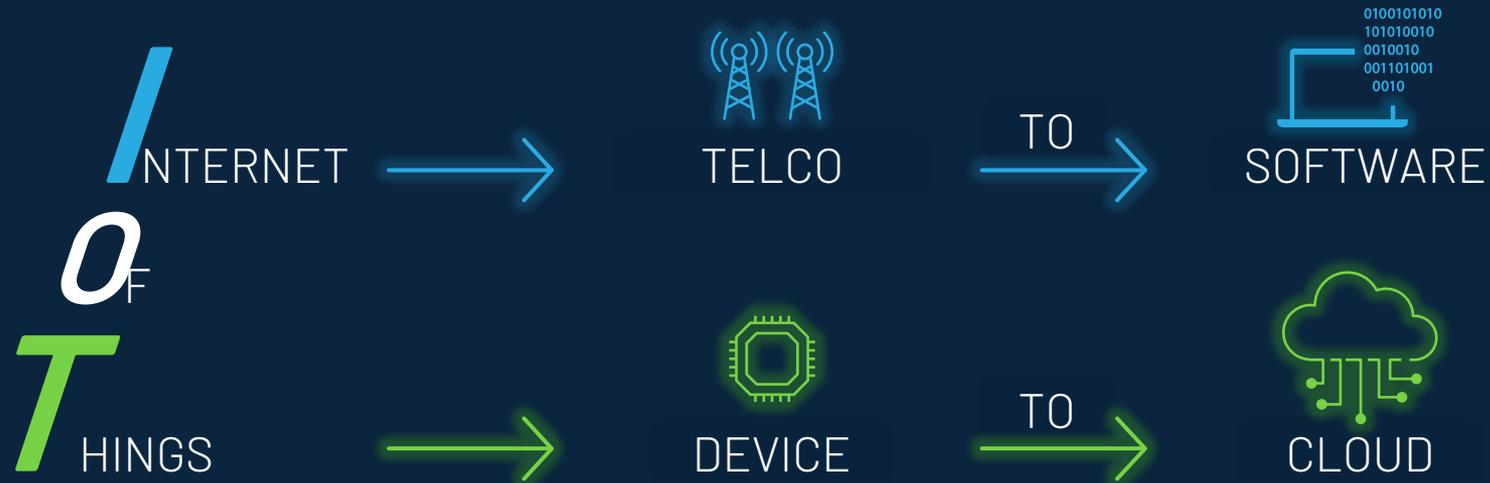
LEAN CORE NETWORK

- Virtually and cloud-hosted
- Secure and reliable and scalable
- Single system with multiple core network elements

AUTOMATED PLATFORM

- IoT focused feature set
- Self service oriented
- Short implementation time

THE INTERNET OF THINGS IS CENTERED IN THE MIDFIELD OF TECHNOLOGICAL BATTLEFIELDS



WHERE 1NCE ACTS AS PLATFORM ON BOTH FRONTS AND PARTNERS WITH WORLD LEADERS TO DELIVER A UNIQUE CUSTOMER EXPERIENCE

INTERNET
OF
THINGS

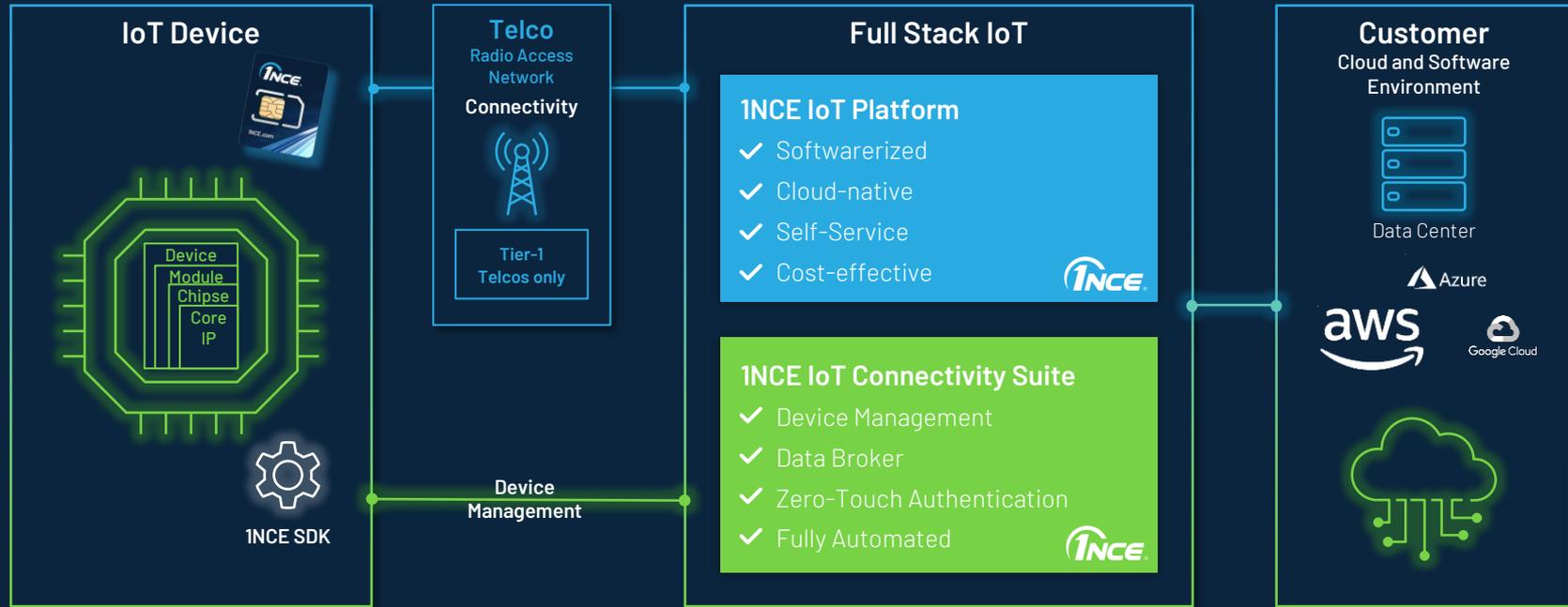


T-Mobile
GLOBAL CONNECTIVITY

Google Cloud
aws
STANDARDIZED ECOSYSTEMS

INCE IS A CLOUD-NATIVE NETWORK

THAT'S ADAPTABLE TO ANY CLOUD ENVIRONMENT



UNDERSTANDING AND ADDRESSING THE PAIN POINTS OF IOT

TAKING LONG DEVELOPMENT CYCLES AND COMPLEXITY INTO ACCOUNT

CHALLENGES OF IOT PROJECTS

1 COMPLEXITY

IoT is complex in terms of integration across ecosystems including cloud computing, radio networks and hardware. For untrained users, configuration and management is **challenging and complex**.

2 TIME TO MARKET

"On average **IoT projects take 10 months to deploy**"¹. Due to the high level of technical complexity, end-to-end integration takes time.

3 COSTS

Generally, costs for hardware integration and application developments are 80-95% of total IoT project cost. **Connectivity costs are too high and often unpredictable**.

1NCE PROPOSITION

Plug-and-play IoT: 1NCE provides **fully automated device-to-cloud** onboarding optimized for cloud-ecosystems such as AWS as well as **easy-to-use** data handling and device management features.

1NCE For All: Get a **free SIM with 12-months connectivity** to allow for worry-free integration, design-in and testing.

Best value at lowest cost: 1NCE changed the rules with **flat rate pricing and a full suite of inclusive services**. No extra costs or hidden fees.



INTRODUCING FREE-IOT-CONNECTIVITY

A FREE SIM CARD WITH 12 MONTHS CONNECTIVITY



-  Free IoT SIM for 12 months, no auto subscription afterwards
-  50 MB data volume included
-  All mobile bearers: 2G, 3G, 4G, LTE-M, NB-IoT
-  Coverage in EU (+ NO, CH, UK), USA, Russia, China
-  APN, OpenVPN, REST API, Data Streamer and more included
-  Connectivity Suite for easy IoT device integration into AWS IoT Core
-  Optional upgrade to the 1NCE IoT Flat Rate at any time

EXCLUSIVELY AVAILABLE IN
 **aws marketplace**



"1NCE For All" is exclusively available in AWS Marketplace and is fully free-of-charge. It can be used up to 12 months. Maximum order quantity: 100 SIMs per customer. Ordering of more cards optional. Optional upgrade to the "1NCE IoT Flat Rate" (500 MB, 250 SMS, coverage in more than 100 countries, 10 years lifetime) at 10 USD per SIM.

1NCE PROVIDES A DEDICATED CUSTOMER CARE AND TECHNICAL SUPPORT

All requests via contact form are forwarded to the 1NCE Team and will be answered by respective IoT experts (e.g. delegated to technical support).



Not a customer yet?

You want to know more about 1NCE and our offerings?

Fill out our contact form and get in touch with the 1NCE Team.

CONTACT FORM



Already a 1NCE customer?

You already are a 1NCE customer and have questions about the 1NCE IoT Flat Rate?

Manage your SIM cards and directly contact our service team via our hotline or our ticket system

CUSTOMER PORTAL



1NCE Help Center

Easily find your answers and useful insight on how to use 1NCE products.

The 1NCE Help Center provides comprehensive information about 1NCE usage and support material such as videos and documentations.

HELP CENTER

Self Service: FAQs are curated permanently and will be subsequently added with new content. 1NCE Documentation incl. Starting Guide, Developer Hub and API Reference
→ Comprehensive knowledge data-base for all kinds of product related information

A Pre-Sales Care

C Self-Services

B After-Sales Care

Customers can **raise tickets** or **dial the hotline**. Both options can be found in the customer portal.

TECHNICAL SUPPORT TEAM IS HIGHLY QUALIFIED AND DRIVEN BY FAST HANDLING AND QUICK RESOLUTIONS

Service Requests

Show per page + Phone + New Service Request

ID	State	Create Date	Solved Date	Subject
5CBEKF	✓	2019/11/13 11:55	2019/11/14 09:27	[Redacted]
4U8A7H	→	2019/10/29 10:07		[Redacted]
01J8CA	✓	2018/08/01 12:20	2018/08/01 12:44	[Redacted]

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EXCLUSIVE ACCESS TO TECHNICAL SUPPORT:

- **Situation:** INCE is a connectivity provider and offers a B2B-only service.
- **Challenge:** Business customers run **system critical applications** that rely on standard SLAs and generally reach out in case of serious matters
- **Solution 1:** System critical service requests for top clients channeled via **dedicated SPOCS**.
- **Solution 2:** Service request only available for existing customers to **avoid full queues** and guarantee fast response and solution times

The INCE Customer Portal provides a current overview of all service requests and their status. Existing customers can directly access hotline and / or create a new service request.

HOTLINE AVAILABLE DURING STANDARD BUSINESS TIMES WHEREAS TICKET SYSTEM ALLOWS TO SEND MESSAGES 24/7

The screenshot displays the INCE customer portal interface. At the top, there is a navigation bar with various icons and a 'Support' tab. Below the navigation bar, the 'Service Requests' section is visible, featuring a table with columns for ID, State, Create Date, Solved Date, and Subject. The table contains three rows of data. To the right of the table, there are buttons for '+ Phone' and '+ New Service Request'. Two pop-up windows are overlaid on the main content: 'Support Hotline' on the left and 'New Service Request' on the right. The 'Support Hotline' window displays the phone number +49 (0) 1905 00 9598 and business hours from Mon - Fri, 9:00 a.m. - 6:00 p.m. CEST. The 'New Service Request' window has fields for Subject and Message, along with 'Cancel' and 'Save' buttons.

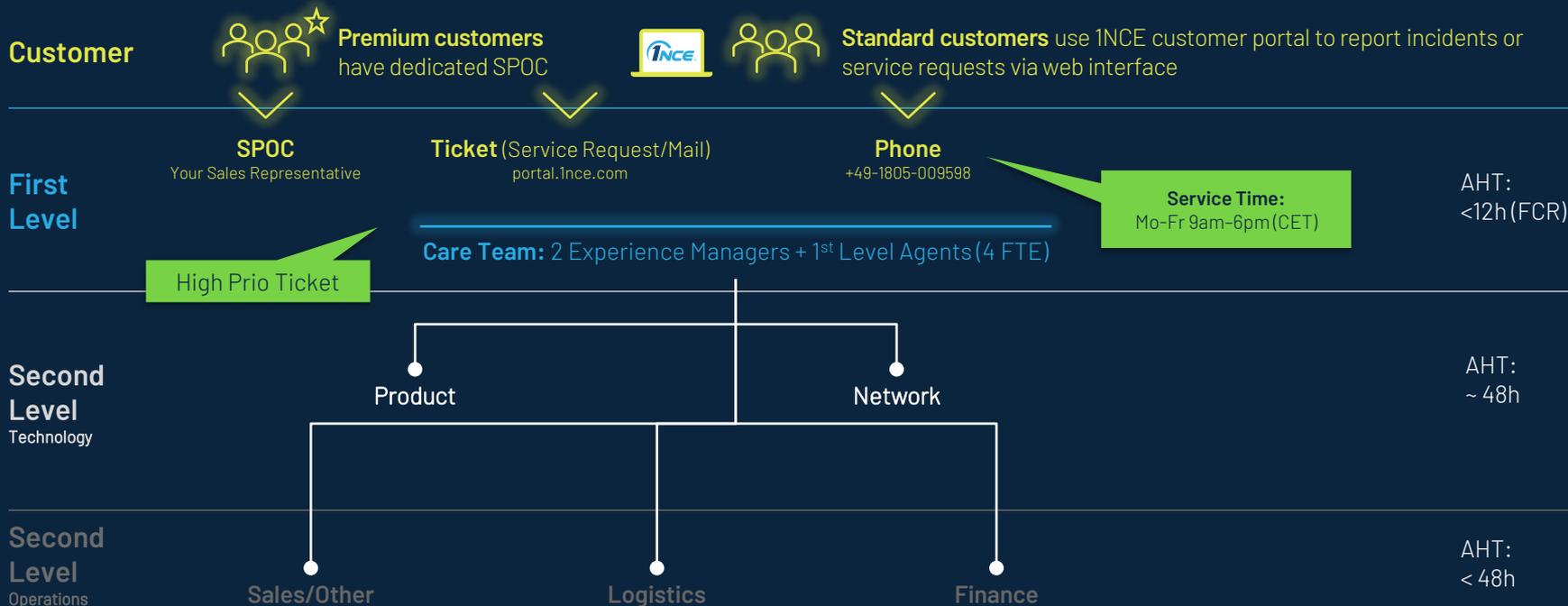
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01J8CA	✓	2018/08/01 12:20	2018/08/01 12:44	[Redacted]

Customer Care can be contacted either by **phone or via ticket (service request)**. Both channels are **only available for existing customers** to ensure a high reachability and fast responses.

Well trained 1st level team has direct access to customer data and can **track or solve the customer's issues**. In case of complex incidents, they directly **route tickets to the respective 2nd level** representatives.

One system only: All tickets and incidents are tracked and documented **only within the INCE customer portal system** in order to avoid biases due to incorrect data dumps etc.

1NCE HAS INTERNAL COMMITMENTS TO SOLVE STANDARD REQUESTS WITHIN 48 HOURS



SEAMLESS SERVICE QUALITY GUARANTEED THANKS TO REDUNDANT STAFFING AND CONTINUOUS INTERNAL MONITORING

1st Level Support

- **Team:** 4 Agents (4 FTE)



- **Service times:** Mo-Fr 9am-6pm

- **Channels served:** Telephone / Mail

- **Functions:** SPOCs for standard customers / generally responsible for: all customer contacts

- **Improvement:** Regular tracking and documentation of all incoming request and incidents



Dedicated Customer Care Experience Managers (2 FTE)

- Monitors handover (delegation) to 2nd Lvl
- Supervisions **customer contact quality** and AHTs

Hand over if resolution requires addition 2nd level support

- Controls 2nd level, sets **reminders in order to guarantee fast resolution**
- **Daily reviews** in order to improve quality

Provide solution / answer within at least 48h (avg.)

2nd / 3rd Level (10 FTE)

Logistics

- Shipment / Tracking
- Toll Issues
- Return

Payment / Legal

- Payment
- Invoice
- Warranty
- Legal / Privacy
- VAT Check

Technical / Product

- SIM-Card
- API
- Setup
- Network VPN
- APN / SMS

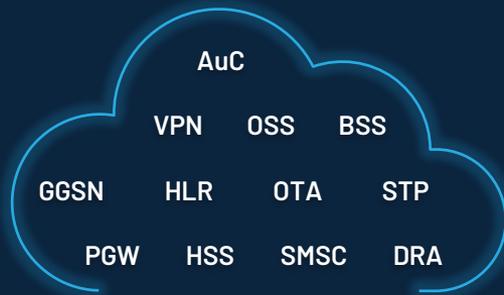
Sales / Other

- Re-Purchase
- Top-Up
- IPsec addon
- General complaints
- Legal etc.

COST ADVANTAGES THANKS TO A LEAN CLOUD NATIVE PLATFORM

WITH VIRTUALIZED AND SOFTWARE-BASED NETWORK FUNCTIONS

INCE Connectivity Platform



- Lean software-based network management platform for any IoT application based on a virtualized 3GPP cloud native architecture
- Automated platform enabling customer self-services via customer portal and REST API
- Cloud-native platform running on AWS

Supported Bearers



- Multi-core platform enabling multi-bearer support including 2G, 3G, 4G, 5G and NB-IoT and LTE-M
- Current coverage of 100+ countries based on partner network of Tier-1 operators such as Deutsche Telekom, T-Mobile US and China Telecom

One SIM card



3in1 SIM
2FF, 3FF, 4FF



eSIM
MFF2

- Network agnostic SIM operating system
- Multi-IMSI capabilities for profile change
- GSMA standards-compliant eUICC

1NCE NETWORK INTEGRATION SIMPLIFIED (SMS)

250 SMS included within standard IoT Flat Rate.

Device-to-Device respectively Mobile-to-Mobile not supported.

Customer IoT Device



SMSC Address:
82 285 00001 6866

Bundled SMS Service

250

Application Originated (AO) to Mobile Terminating (MT)
Mobile Originated (MO) to Application Terminating (AT)

Customer Application Server



example.com

INCE DATA STREAMS

Get real time insights into your device status and analyse the status

Various Integrations

{RestAPI}

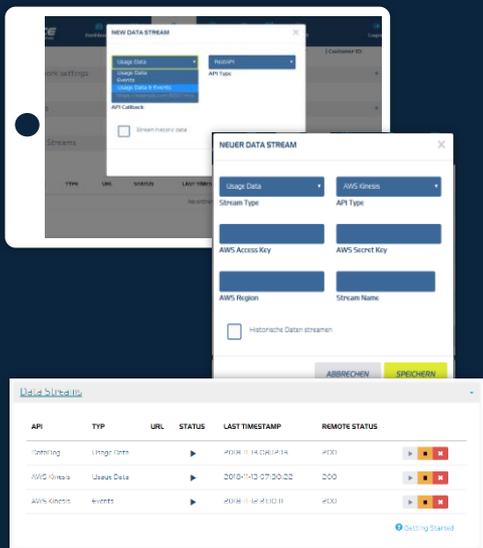


Amazon S3



Amazon Kinesis

Easy Management



Multiple Benefits



Device Status

Get real-time information regarding the status of your device (e.g., data session PDP).



Device-level Reporting

Analyze current and historical data for each individual device.



Location

Geo-track and geo-fence your device via cell ID and geolocation information.



Data Analytics

Clear and customizable analytics dashboards show data consumption in powerful detail.

INCE REAL TIME DATA STREAMING



IoT Device
APN "Ince"



GTP Tunnel

INCE CORE
GGSN/PGW



OpenVPN

Customer Datacenter

Event Data

- Timestamps
- Event Type
- Severity
- Alert Indication
- Source
- Description
- Details

Data Streamer

Usage Metrics

- Timestamps
- Volume (TX/RX)
- Mobile Network Operator
- Country

{RestAPI}



DATADOG



API

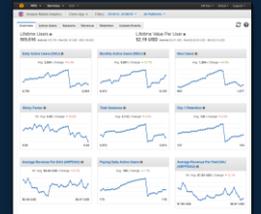
CSV

JSON

Keen IO

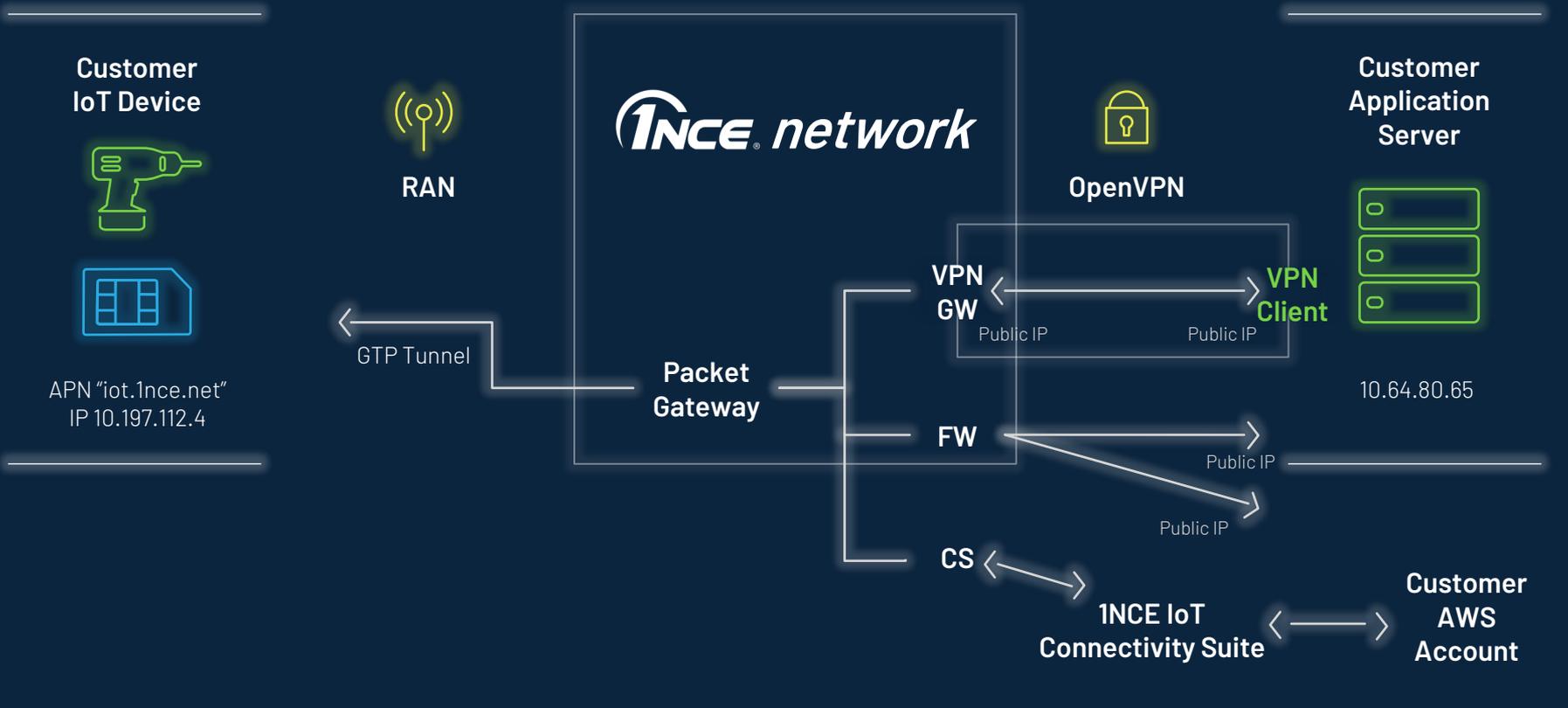


Amazon S3



Amazon Kinesis

1NCE NETWORK INTEGRATION SIMPLIFIED (DATA)



1NCE NETWORK INTEGRATION SIMPLIFIED (DATA)

IPv6 Support
planned

IPv6 Subnet
2001:db8::/56

Transparent Network Access Between Mobile Devices And Application Server
Support of IP/UDP, IP/TCP

IPv6 Subnet
2001:db8::/32

Customer
IoT Device



RAN

1NCE network



OpenVPN

Customer
Application Server



GTP Tunnel (6in4)

Packet
Gateway

VPN
GW

Public IPv4

VPN
Client

Public IPv4

2001:0db8:ee00:abcd::1

Dual IPv4 and IPv6
Protocol Stack Support

Dual IPv4 and IPv6
Protocol Stack Support

APN "iot.1nce.net"
2001:db8:0000:00ff:ffff:ffff:ffff:ffff

1NCE ORGANIZATIONS

Login as a
Master
Organization



"Organization"



"New
Organization"



Registration



Billing &
Shipping



Summary



Submit



Company,
Salutation,
First/Last
name, Tel, E-
Mail, Contact,
Language



Billing (and
shipping
address)

Every new (first) order creates a master organization.

Master organizations can create as many sub-organizations as required.

A master organization can view all created organizations and quantity of ordered SIMs.



Organization

FOR AN EXTRA LEVEL OF SECURITY: SECURE DATA TRANSMISSION THANKS TO BLOCKCHAIN ON A SIM

Optional Upgrade:
+ 2 EUR



Affordable



Secure



IoT Focused



Standardized



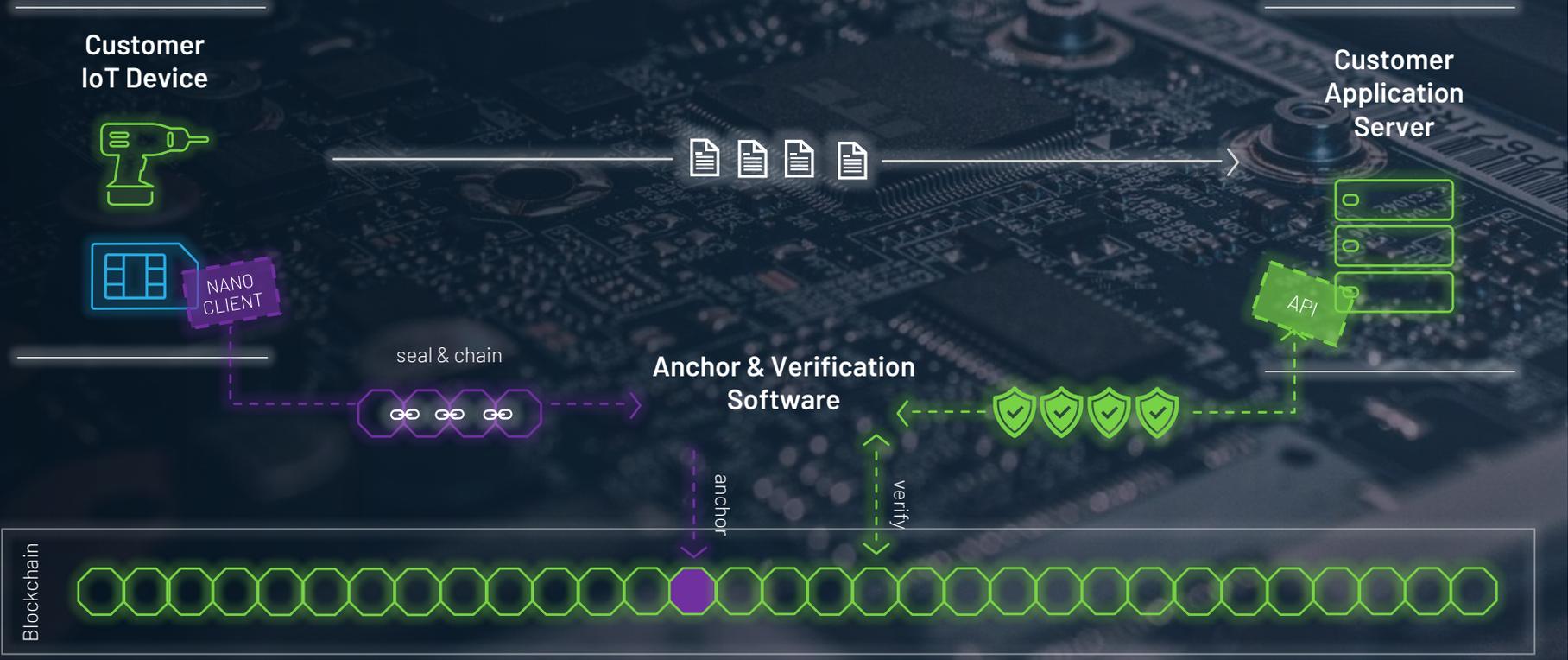
Plug & Play

BEST OF BOTH WORLDS:

- Highly **standardized** as the solution comes on a regular SIM
- **Plug & play** into device
- **IoT focused** and scalable for large number of transactions
- Makes blockchain in IoT finally **affordable** and
- Brings blockchain technology into the **secure** element of the SIM card

FULLY INTEGRATED TRUSTED HARDWARE

IOT CONNECTIVITY WITH A BUILT CHAIN OF TRUST RIGHT AT THE SIM



INCE SECURITY FEATURES: BLOCKCHAIN ON A SIM SOLUTION



Powered by



- Utilizing a trust protocol, which ensures that **data from IoT sensors cannot be falsified** after their creation.
- Data packets of sensors are **sealed and chained with strong cryptography** so that its technically impossible to manipulate them once stored in a Blockchain.
- The IoT data is sealed by a **private key that sits on the SIM-Card**.
- Micro-certificates are **stored in the backend in a so-called Merkle-Tree and anchored in public blockchains**, thus creating an immutable and irrefutable record of that sensor.
- **Bidirectional protocol:** IoT sensors verify incoming packets for authenticity and integrity, protection against unauthorized commands or unknown sources.

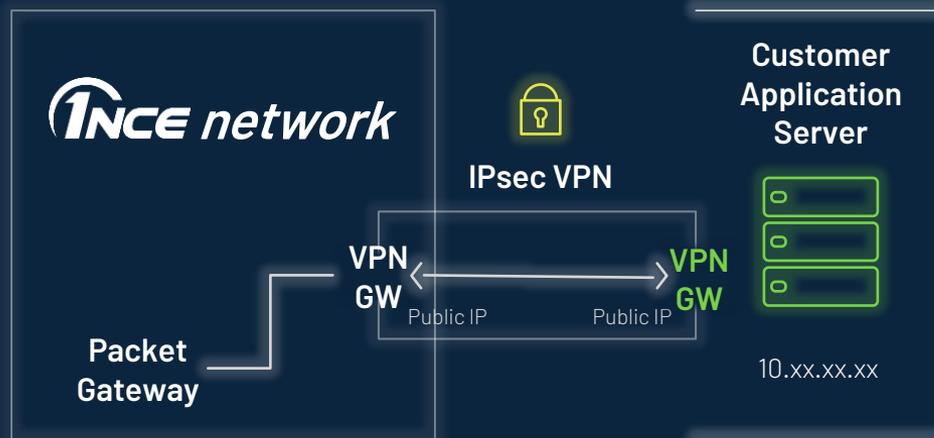
INCE VPN SERVICES OVERVIEW

UPGRADE TO IPSEC AND VPC PEERING AVAILABLE FOR 1,200 EUR P.A.

General	OpenVPN 	IPSec 	VPC Peering 
Product Description	Open-Source Software	Secure Network Protocol Suite	Cloud Connect Service
Security Level	High	Highest	Highest
Setup	Via OpenVPN Software Package (free download via INCE website)	IPSec capable router or software solution (e.g., OpenSWAN)	Virtual private cloud (VPC) on AWS
Installation efforts	Low	High	Medium
Requirements			
Dynamic IP support	Yes	No	Not applicable (AWS ID required)
Static IP required	No, Public IP	Yes, Public IPv4	Not applicable (AWS ID required)
OS Support	Windows, Linux, MacOS	All	All
Best suited for	Start-Ups, SMB, Large Enterprises	Large Enterprises (sending sensitive data)	Large Enterprises (sending sensitive data)
Price	Free of charge	1,200 EUR p.a.	1,200 EUR p.a.

HIGH LEVEL DESCRIPTION OF 1NCE VPN SERVICES

SECURE CONNECTIVITY SERVICES TO THE 1NCE NETWORK



VPN OPTIONS A 1NCE

A virtual private network (VPN) extends a private network across a public network and enables users to send and receive data across shared or public networks as if their computing devices were directly connected to the private network.

1NCE customers can connect their server to the 1NCE core network as described on the picture left.

1NCE offers 3 solutions for a VPN connection:

1. **OpenVPN (inclusive)**
2. **IPSec (additional fee)**
3. **VPC (additional fee)**

Benefits of a VPN

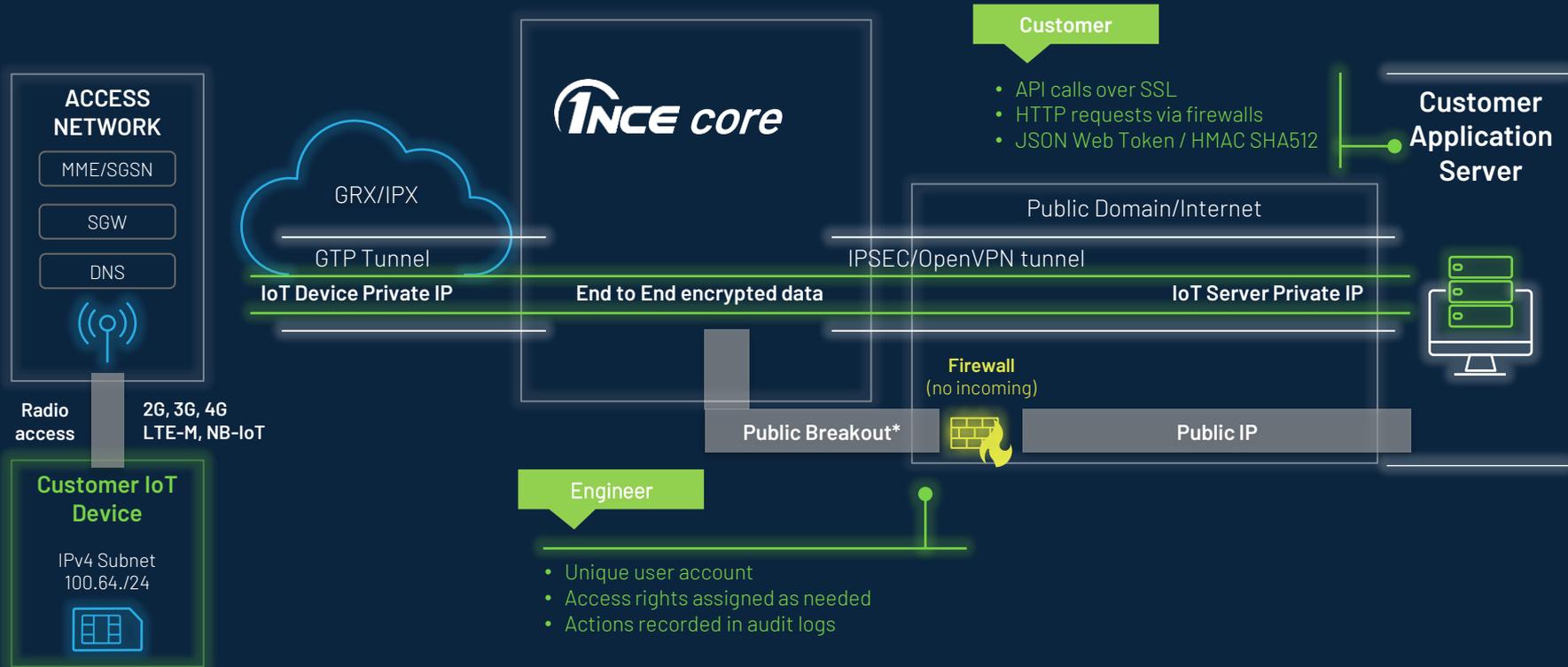
- **Enhanced Security**

When you connect to the network through a VPN, the data is kept secure and encrypted. In this way, the information is away from public access.

- **Private IP**

For security reasons all devices are connected within one network (subnet) and via private IPs. The use of a VPN is mandatory.

SCHEMATIC OVERVIEW OF INCE NETWORK SECURITY



IN-DEPTH INSIGHTS FROM THE INCE CUSTOMER BASE¹⁾

THREE MAJOR CHALLENGES WHILE RAMPING UP IOT SOLUTIONS

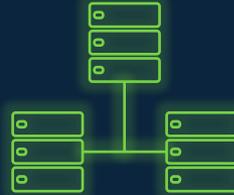
1 Device security and authentication



Unsecure device authentication in cloud and platform environment

Very complex and time consuming

2 Data protocol support



IoT platforms only offer limited support of IoT data protocols

No support of low-data IoT protocols (e.g. only MQTT)

3 Device integration and management



First setup and configuration of devices requires additional efforts

Difficult handling and initial training necessary

THE 1NCE WAY OF ADDRESSING THE CHALLENGES: "PLUG & PLAY IOT": OVERCOME THE ISSUES OF IOT ADOPTION WITH EASE OF USE



1NCE[®] *IoT Connectivity Suite*

1 SIM-AS-A-IDENTITY

Simplifying the authentication process for IoT solution by **leveraging the SIM as trusted component.**



SIM IDENTITY AUTOMATIZATION

2 DATA MANAGEMENT "MADE FOR IOT"

IoT optimized firmware development and **automated selection of the best transport protocol.**



DATA BROKER

3 AUTO PROVISIONING

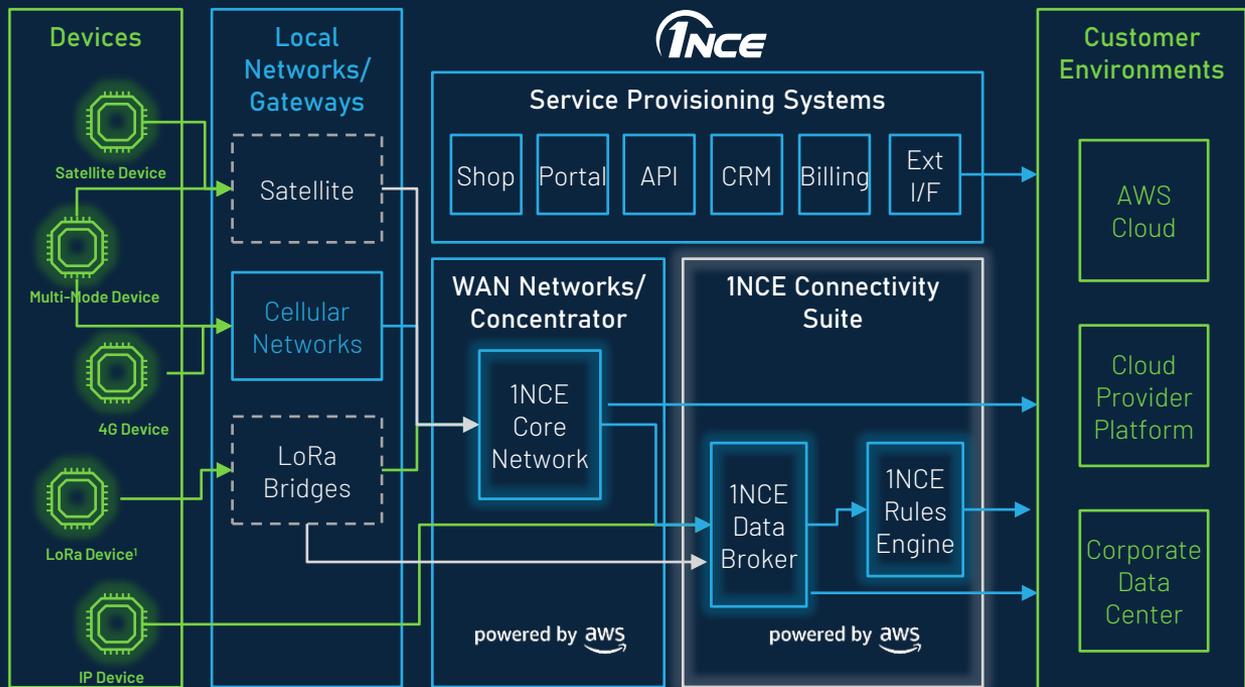
Simplified and **fully automated device provisioning on AWS IoT Core** and other public cloud services



DEVICE SDK & RULES ENGINE

ENVIRONMENT OVERVIEW OF THE IOT CONNECTIVITY SUITE

SOFTWARE SERVICES BEYOND CONNECTIVITY



- 1NCE Core is deployed in AWS enabling customers that run their IoT solution in AWS to easily connect via VPC (support of LoRa, Satellite, etc. coming soon)
- A 3GPP compliant architecture of 1NCE allows for easy local break outs
- 1NCE Data Integration Layer (part of Connectivity Suite) helps to integrate and manage IoT devices more efficiently
- Data Broker adopts to various device protocols incl. UDP, CoAP , etc.
- Rules Engine allows to configure thresholds and to define real time actions
- 1NCE services are built in AWS providing AWS IoT Core customers with native access to their data

1NCE IOT FLEX SIM

TECHNICAL DATA SHEET

KEY STANDARD COMPLIANCE

Global Platform 2.3

Specification V2.3

ETSI TS 101 220	ETSI TS 102 221
3GPP TS 31.101	3GPP TS 31.111
3GPP TR 31.900	3GPP TR 31.919

HARDWARE FEATURES

Ruggedized Form Factors

- 2FF (Standard SIM), 3FF (Micro SIM), 4FF (Nano SIM)

Operating Voltage

- Class A,B,C (1.8V - 5.0V +/-10%)

Environmental Temperature Range

- -25°C +85°C

SOFTWARE FEATURES

Supported Bearers

- 2G, 3G, 4G, LTE-M, NB-IoT

Data Retention

- 10 years

Read/Write Cycles

- 500,000



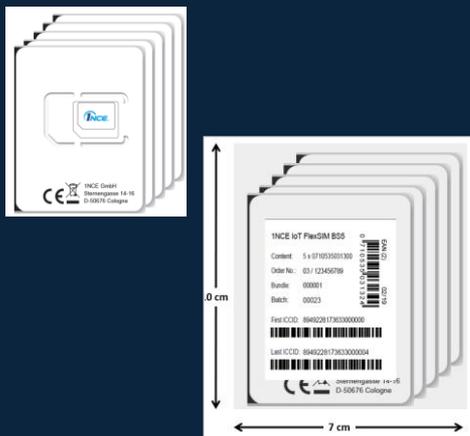
Front and back side of the SIM card

The 1NCE IoT FlexSIM is a standard commercial grade 3in1 SIM. FlexSIM cards are produced in half size form in order to save on plastic wastage. On the back is a barcode and numerical representation of the EAN code and the ICCID.

FLEX SIM PACKAGING METHODS FOR SHIPMENTS OF 5+ CARDS

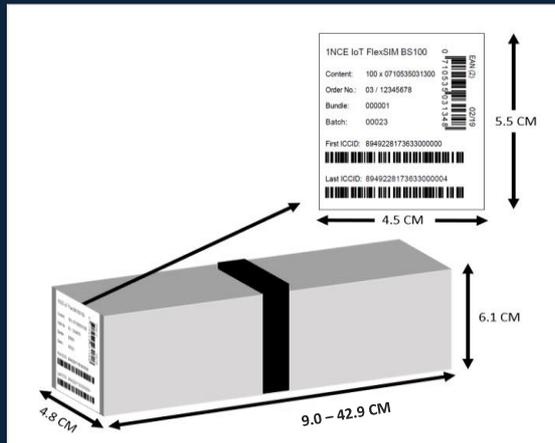


5-25 PACK WRAPS



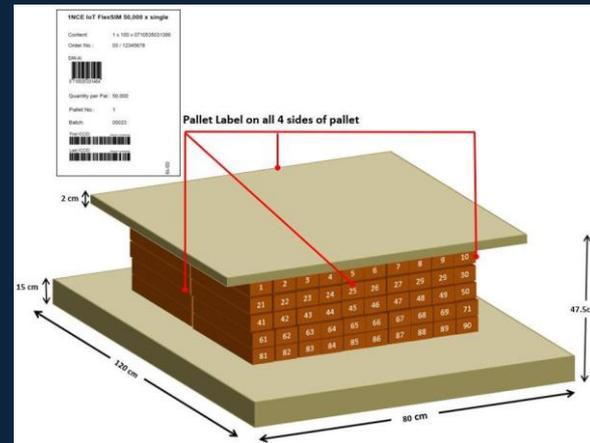
The 5 and 25 packs come in a plastic wrap with a label on the front.

100-500 BOXES



Both the 100 and 500 boxes have a label on the front of the box and the SIMs are packed in sequence, lowest to highest, according to their ICCIDs.

50.000+ SHIPMENTS



For orders of 50,000 a pallet will be shipped. This will consist of 100 x 500 boxes. Each box will have its own label and there will also be a pallet label included.

FLEX SIM LABELING



Labels are found on all the individual SKU packages (except singles where the information is lasered onto the card) and also on the pallet. The information includes a scannable first and last ICCID number and EAN code.

1NCE IoT FlexSIM BS100

Content: 100 x 0710535031300

Order No.: 03 / 12345678

Bundle: 000001

Batch: 00023

First ICCID: 8949228173633000000

Last ICCID: 8949228173633000004

0 7 1 0 5 3 5 0 3 1 3 4 8

02/19

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100 Box SIM label

1NCE IoT FlexSIM 5 x 100

Content: 5 x 0710535031348

Order No.: 03 / 12345678

Pal. / Box: 01 / 00001

Batch: 00023

First ICCID: 8949228173633000000

Last ICCID: 8949228173633000499

0 7 1 0 5 3 5 0 3 1 4 1 6

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500 Box SIM label

1NCE INDUSTRIAL IOT eSIM

TECHNICAL DATA SHEET

KEY STANDARD COMPLIANCE

Global Platform 2.3 Specification V2.3

ETSI TS 101 220	ETSI TS 102 221
3GPP TS 31.101	3GPP TS 31.111
3GPP TR 31.900	3GPP TR 31.919

HARDWARE FEATURES

Ruggedized Form Factors

- MFF2 - QFN8

Operating Voltage

- Class A,B,C (1.8V - 5.0V +/-10%)

Environmental Temperature Range

- -40°C + 105°C

SOFTWARE FEATURES

Supported Bearers

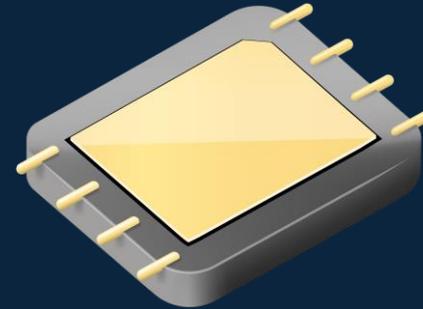
- 2G, 3G, 4G, LTE-M, NB-IoT

Data Retention

- 10 years

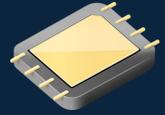
Read/Write Cycles

- 500,000

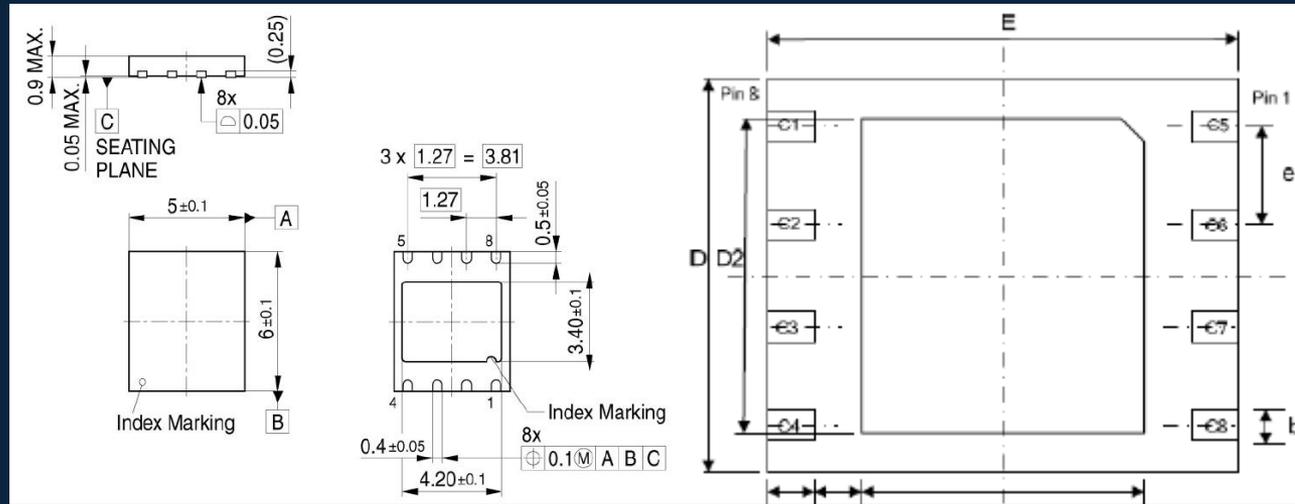


The 1NCE Industrial IoT eSIM is a ruggedized industrial grade SIM-chip with a MFF2 form factor.

ESIM DIMENSIONS AND COMPONENTS



SMD Devices: MFF2 package dimensions according to ETSI 102 671.



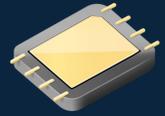
	Min.	Typ.	Max.	Unit
E	5.85	6.00	6.15	mm
D	4.85	5.00	5.15	mm
L	0.45	0.60	0.75	mm
B	0.30	0.40	0.50	mm
E2	3.30			mm
D2	3.90			mm
K	0.20			mm
e		1.27		mm

MFF2 Package dimension and sizes

Dimensions of MFF2

ESIM REELS

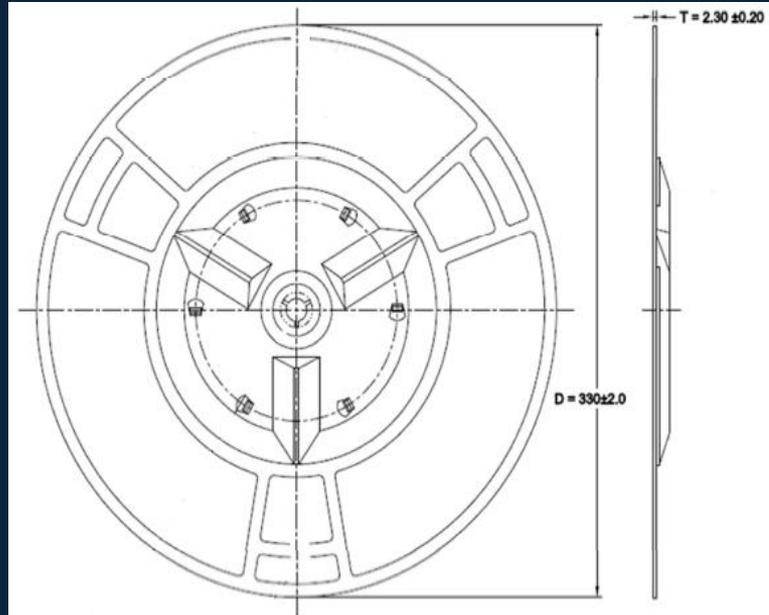
SIZES AND CAPACITY



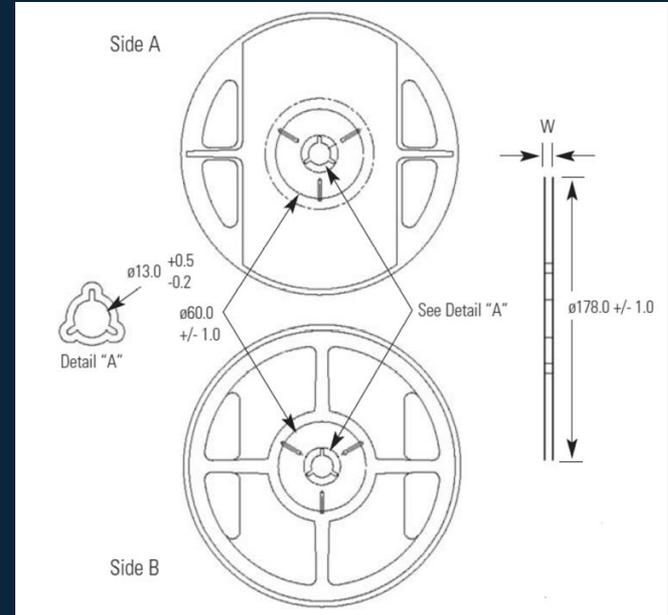
High-impact injection molded polystyrene construction reels offer exceptional protection to devices.

Two different sizes are available 7inch (178mm) and 13inch (330mm). 13inch reels are assembled from two halves 8mm and 4mm.

Capacity of 7inch reel is 100 or 500 devices and 13inch reel is 3,000 devices.

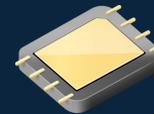


13" reel



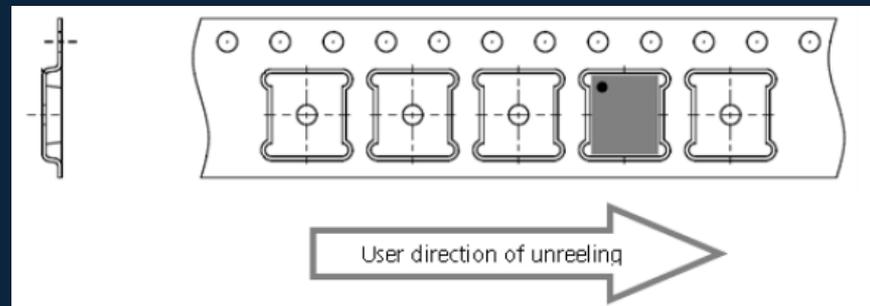
7" reel

ESIM PACKING AND SEQUENCING



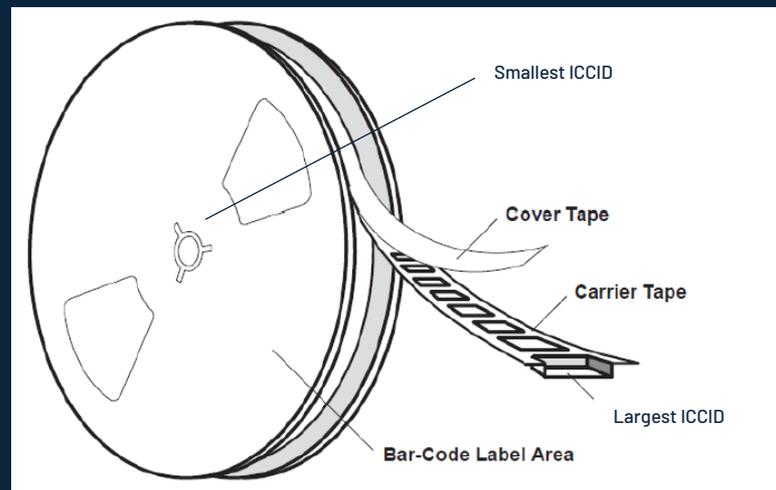
The packing process and materials meet requirements defined in JEDEC J-STD-033 with ESD precautions and proper handling procedures.

The user direction of unreeling is according to EIA-481 standard.



Packing orientation and unreeling direction

Devices are produced in sequence in ascending order where smallest ICCID is produced first and is at the end of the tape (middle of the reel).



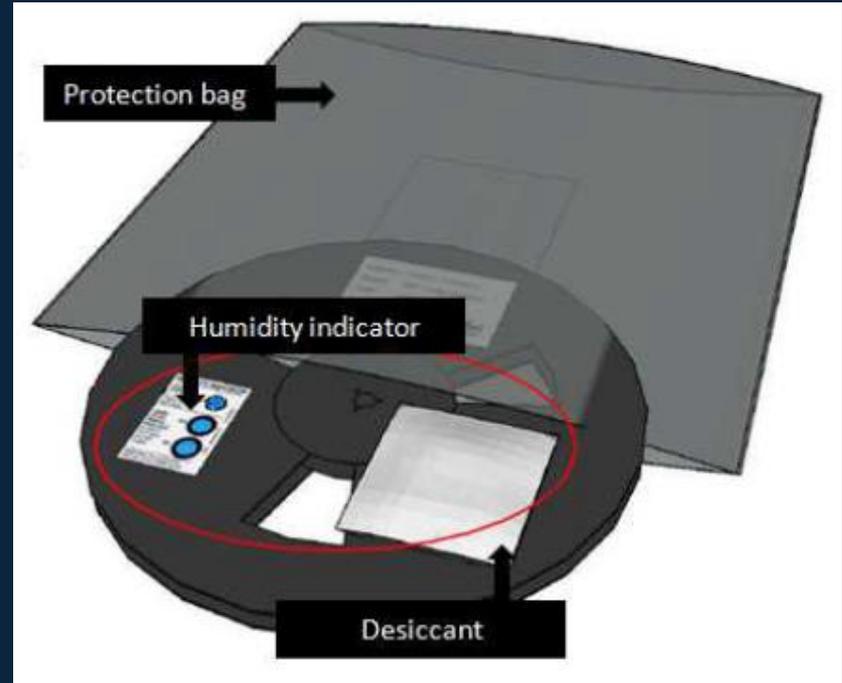
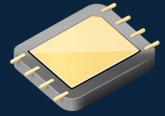
Device sequence in reel

eSIM PACKAGING METHODS

REEL PACKAGING

The packaging method consists of the following processes after assembly:

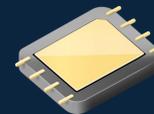
- Barcode label and humidity indicate card added on to the reel
- Desiccant (silica gel 25g * 2ea) is added and reel is inserted into a moisture barrier bag.
- Moisture bag is vacuum packaged and placed into Pizza box
- Barcode label attached to Pizza box



Reel and moisture protection bag

eSIM PACKAGING METHODS

BOX SIZES



7" reel box

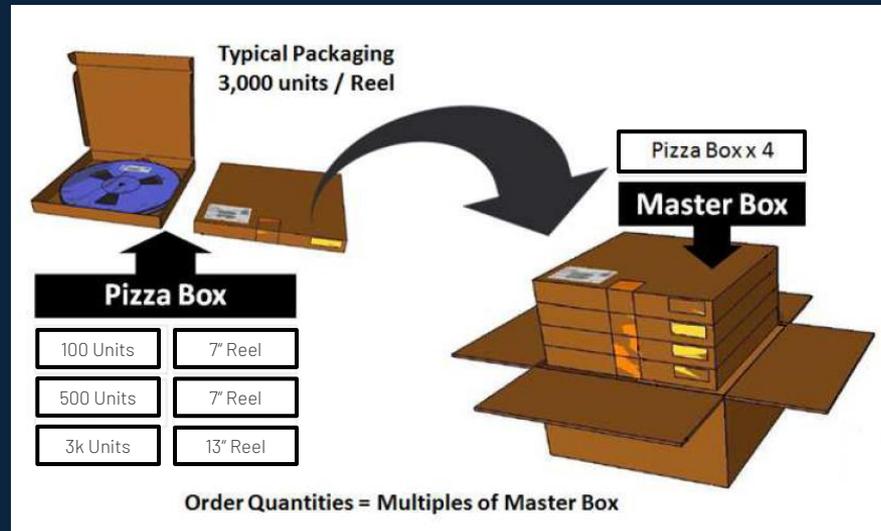


13" reel box

The Pizza box is made of stiff paper to suit the dimensions of the reels.
The dimensions of the boxes are:

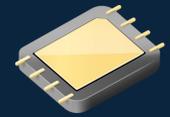
- Small: (W x L x H): 212 x 197 x 55mm³ (7" reels)
- Large: (W x L x H): 355 x 354 x 58mm³ (13" reels)

4 Pizza boxes are packed in outer box with a maximum quantity of 12,000 devices
(4 x 3,000 devices).



Pizza and Master box

eSIM LABELING



Labels are found on both the Pizza boxes and the Master box. The Pizza box label will contain details from the specific reel inside whereas the Master box label contains information from the 4 reels inside. Information includes a scannable first and last ICCID number and EAN code.

1NCE Industrial IoT eSIM

Content: 100 x 0710535031300

Order No.: 03 / 12345678

Bundle: 000001

Batch: 00023

First ICCID: 8949228173633000000

Last ICCID: 8949228173633000004

0 7 1 0 5 3 5 0 3 1 3 4 8

EAN (2)

02/19

Pizza box sample label

1NCE Industrial IoT eSIM

Content: 5 x 0710535031348

Order N^o.: 03 / 12345678

Pal. / Box: 01 / 00001

Batch: 00023

First ICCID: 8949228173633000000

Last ICCID: 8949228173633000499

0 7 1 0 5 3 5 0 3 1 4 1 6

EAN (3)

02/19

Master box sample label