Telefónica

API OVERVIEW

Overview, use cases on the Number Recycling API

Telefónica Open Gateway

November 2025

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Description

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“When trust depends on accuracy, the Number Recycling API is the signal — allowing organizations to verify in real time whether a mobile number has been reassigned, using operator-verified network data”

The API checks if a phone number has changed ownership since a given date, using operator-validated network data.
It helps keep customer records accurate, prevents credentials from reaching new holders, and reduces fraud in sectors like banking, fintech, healthcare, logistics, and digital services. By ensuring real-time, private updates, it strengthens trust, improves compliance, and enhances customer experience.

Features and Categorization

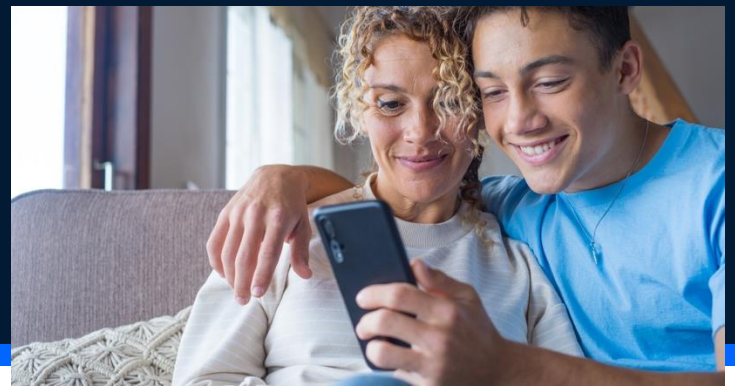
CAMARA	✓
COUNTRIES	
SECTORS	FINANCIAL SERVICES & INSURANCES E-COMMERCE & RETAIL MEDIA, ENTERTAINMENT & XR
SERVICES	AUTHENTICATION AND FRAUD PREVENTION

Characteristics of Number Recycling API

02

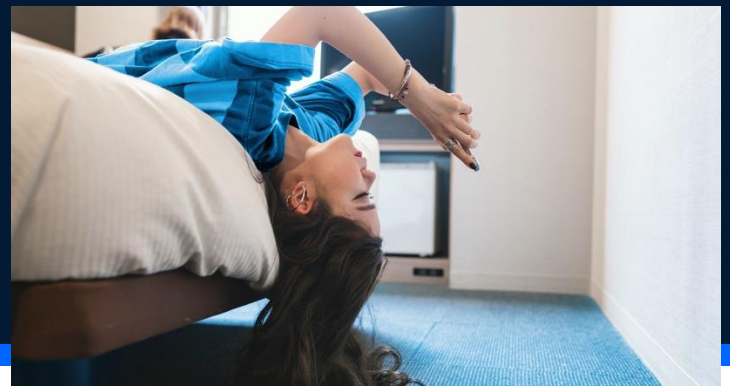
Overview

Characteristics of Number Recycling API



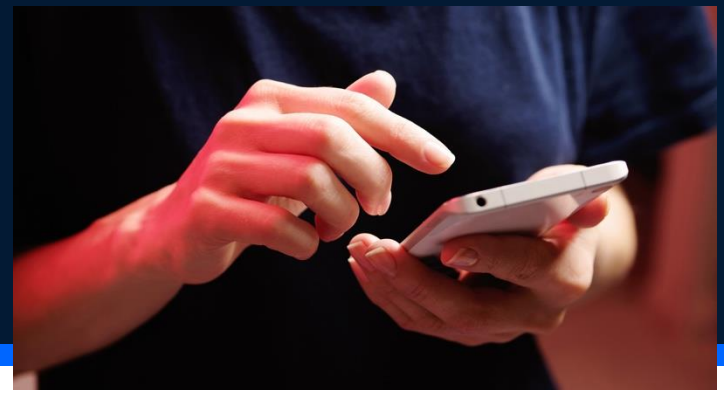
Recent recycling indicator

Identifies if a number has been reassigned within a configurable timeframe (e.g., last 90 days), critical for fraud prevention and **customer record hygiene**.



Real-time network validation

Provides an instant response **directly from the mobile network**, ensuring accurate and up-to-date results.



Historical lookup capability

Allows companies to **query past ownership changes over a defined period (e.g., 6–12 months)**, offering greater visibility into number lifecycle patterns.

Overview

Characteristics of Number Recycling API

API Synergies for Smarter Risk Evaluation

When combined with other telco identity APIs—such as Number Verification (to confirm active use), SIM Swap (to detect recent changes), or Line Tenure (to validate contract maturity)—it provides a **richer fraud-prevention toolkit**. This layered approach strengthens risk evaluation, reduces false positives, and enables adaptive authentication tailored to each transaction.

Standardized Access Across Operators

Built on the CAMARA standard and available through GSMA Open Gateway, the API offers a consistent, operator-agnostic interface across markets. Partners can integrate once and use globally, without negotiating custom solutions per telco.

Privacy by design

Implements a minimal-data approach by returning only a binary result—Unlike traditional data-matching tools, the API does not expose or process any personal identifiers such as names, addresses, or IDs.
Instead, it delivers a simple, binary, operator-verified signal that indicates whether a mobile number has changed ownership since a given date.

Use cases

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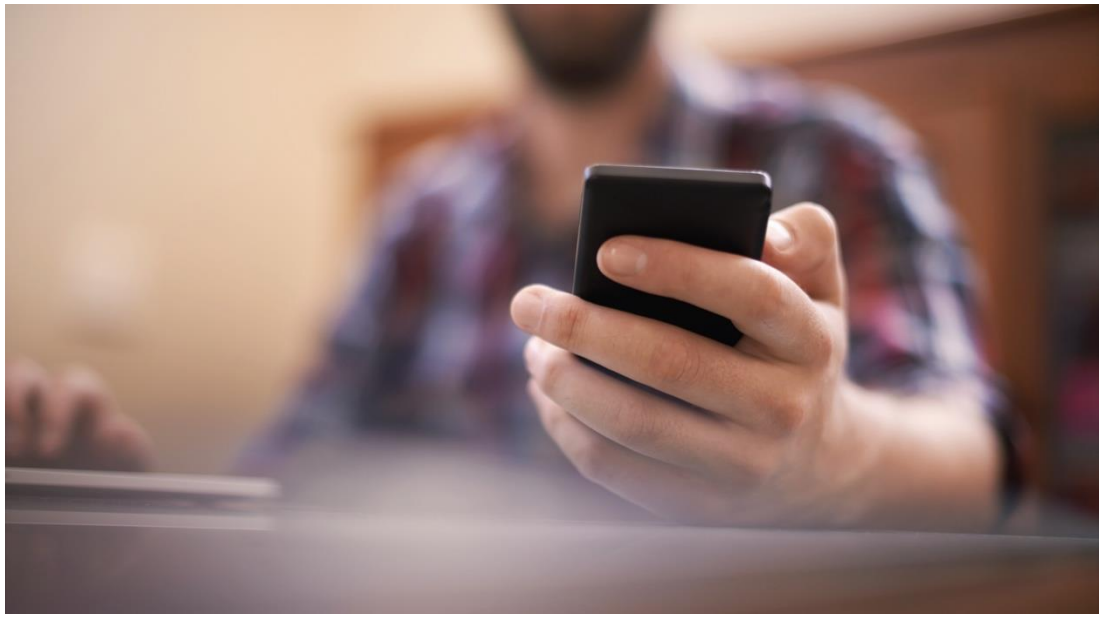
Overview / Use Cases

Sensitive Notifications

Banks, healthcare providers, and insurance companies rely on mobile numbers to deliver confidential updates — from transaction alerts to medical results and policy changes.
When a number has been recycled or reassigned, these sensitive notifications risk being sent to the wrong person, leading to privacy violations, regulatory breaches, and customer mistrust.

The Number Recycling API enables organizations to verify in real time that a phone number still belongs to the intended recipient before sending personal or financial information.



OTHER RELATED APIs

Number Verification
Line Tenure
SIM Swap
KYC

SECTOR	FINANCIAL SERVICES & INSURANCES ICT SERVICES
SERVICE	AUTHENTICATION AND FRAUD PREVENTION

DEVELOPER / BUSINESS NEED ADDRESSED

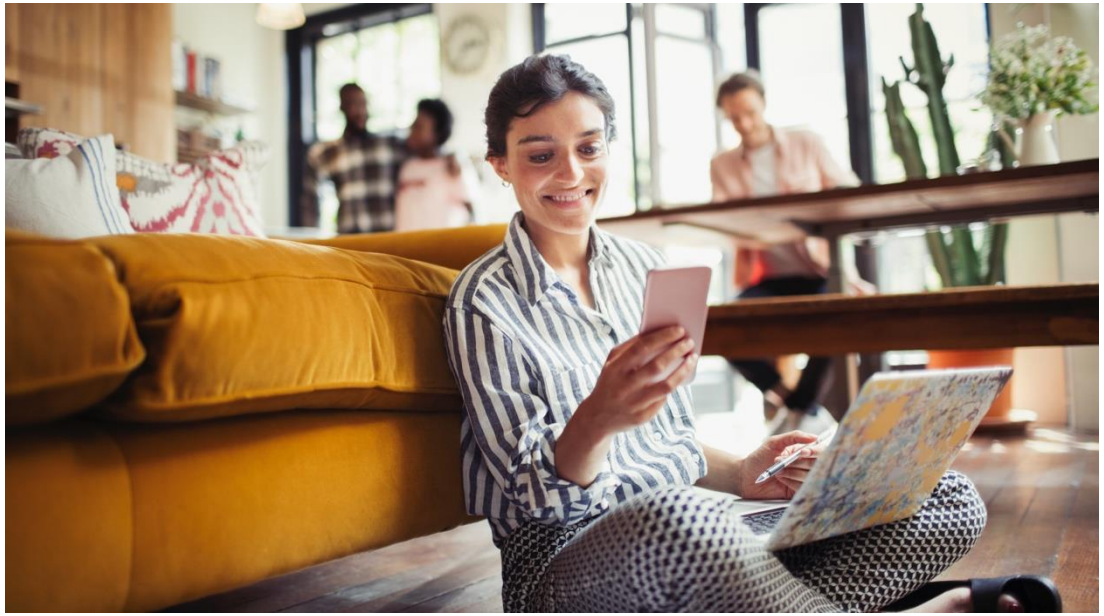
- Prevent misdelivery of personal or financial data by confirming number ownership before sending notifications.
- Strengthen privacy and regulatory compliance (GDPR, PSD2, HIPAA-aligned) through operator-verified validation.
- Reduce risk exposure and reputational damage from accidental data disclosure.

Overview / Use Cases

Secure Authentication & Account Access

Online platforms, financial institutions, and digital service providers often rely on phone numbers as a trusted factor for account access or two-factor authentication.
However, mobile numbers are frequently recycled or reassigned, meaning that an OTP or account recovery code could be sent to a new subscriber, creating a serious privacy and security risk.

By integrating the Number Recycling API, organizations can verify in real time whether a number has changed ownership since a given date — before sending a one-time password, login link, or sensitive notification.
This telco-verified signal ensures that only the legitimate user receives access credentials, preventing account takeovers, reducing fraud, and supporting GDPR compliance through accurate and privacy-preserving data.



OTHER RELATED APIs

Number Verification
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SIM Swap
KYC

SECTOR	FINANCIAL SERVICES & INSURANCES MEDIA, ENTERTAINMENT & XR
SERVICE	AUTHENTICATION AND FRAUD PREVENTION

DEVELOPER / BUSINESS NEED ADDRESSED

- Reduce fraud losses and customer complaints linked to recycled or reused numbers.
- Meet regulatory and compliance standards by ensuring accurate, up-to-date subscriber information.
- Strengthen authentication flows with a telco-verified, privacy-first signal that complements SIM Swap and Number Verification checks.

Overview / Use Cases

Account Recovery & Password Reset

Digital platforms often use phone numbers as a recovery channel for lost credentials or account resets.
However, when a number has been recycled or reassigned, **recovery codes or password reset links can be sent to a new subscriber**, exposing sensitive information and enabling account takeovers.

By integrating the Number Recycling API, organizations can confirm in real time whether a number still belongs to the original user before initiating a recovery flow.
This operator-verified signal safeguards account restoration processes, prevents data breaches, and reinforces trust — ensuring that only the rightful owner can reset or recover access.

OTHER RELATED APIs

Number Verification
Line Tenure
SIM Swap
KYC

SECTOR	FINANCIAL SERVICES & INSURANCES MEDIA, ENTERTAINMENT & XR
SERVICE	AUTHENTICATION AND FRAUD PREVENTION

DEVELOPER / BUSINESS NEED ADDRESSED

- Protect customer data and brand reputation by ensuring sensitive communications reach the intended user.
- Reduce fraud claims and customer support costs caused by recycled or inactive numbers.
- Combine with SIM Swap and Number Verification APIs to build a multi-signal recovery flow that balances security and user experience.

Overview / Use Cases

Enhancing Transaction Trust and Risk Evaluation

Digital platforms and financial institutions constantly evaluate the trust level of user sessions and transactions.
A phone number that has been recently recycled or reassigned can indicate a potentially high-risk event, especially if combined with other contextual information such as device ID, IP reputation, or recent access patterns.

By integrating the Number Recycling API, organizations can add a real-time network signal to strengthen their decision-making frameworks — helping detect unusual account activity, prevent unauthorized access, and maintain regulatory compliance.
This proactive verification layer enhances overall transaction integrity and ensures that risk assessment models operate with accurate and privacy-preserving data.

OTHER RELATED APIs

Number Verification
Line Tenure
SIM Swap
KYC

SECTOR	FINANCIAL SERVICES & INSURANCES ICT SERVICES
SERVICE	AUTHENTICATION AND FRAUD PREVENTION

DEVELOPER / BUSINESS NEED ADDRESSED

- Identify unusual activity or account changes when a number has been recently recycled.
- Strengthen decision models and compliance frameworks with operator-verified, privacy-by-design data.
- Combine multiple telco insights to improve accuracy and reduce false positives in risk evaluation.

Overview / Use Cases

Ensuring Data Accuracy and Regulatory Compliance

Organizations that communicate with customers through mobile channels have a legal and ethical obligation to ensure their information reaches the correct recipient.
When mobile numbers are recycled or reassigned, messages containing personal or transactional data may inadvertently be sent to a new user — creating a potential GDPR or CCPA violation and eroding customer trust.

The Number Recycling API helps companies maintain compliance with data accuracy and privacy requirements by confirming whether a number is still associated with the same subscriber before sending any personal information.
This operator-verified signal acts as a privacy safeguard, preventing data leakage, reducing exposure to regulatory sanctions, and reinforcing transparent, responsible communication practices.

By design, the API aligns with GDPR principles of accuracy, minimization, and privacy-by-default, ensuring that organizations can operate confidently and ethically across digital channels.

OTHER RELATED APIs

Number Verification
Line Tenure
SIM Swap
KYC

SECTOR	FINANCIAL SERVICES & INSURANCES E-COMMERCE & RETAIL
SERVICE	AUTHENTICATION AND FRAUD PREVENTION

DEVELOPER / BUSINESS NEED ADDRESSED

- Support compliance with GDPR Articles 5 and 25 or CCPAA by ensuring personal data is sent only to the correct subscriber.
- Prevent privacy incidents and data breaches caused by recycled or reassigned numbers.
- Strengthen brand reputation and customer confidence through responsible data-handling practices.

Start using Number Recycling API!

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Getting Started with Number Recycling API

Harness the power of Open Gateway and seamlessly integrate our API services into your app

Follow these initial steps for seamless API services to Developers within Channel Partners' environments, including Operators API Services integration for a cohesive product experience and efficient collaboration among stakeholders.

1

CHOOSE A CHANNEL PARTNER

Select a suitable channel partner or payment aggregator that offers integration with the Open Gateway API to meet your needs and business goals. Contact an expert to get more information about the channel partners availability or to become a new Open Gateway Partner

2

PRODUCT DISCOVERY

You can access the Open Device SWAP through the Channel Partner's developer portal.

3

DEVELOPER REGISTRATION

To use Open Gateway Products, you must undergo a registration process that includes signing up on both the Channel Partner and Operator platforms.

4

DEVICE SWAP API CONSUMPTION

After subscribing and sharing credentials, You can access the Open Gateway Product on registered Operators, making API calls through the Channel Partner's gateway.

5

PRIVACY MANAGEMENT

Some Open Gateway Products require end user consent for Developers to access Operator's network capabilities on their behalf.

Documentation

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Official Number Recycling API Documentation

Over CAMARA

CAMARA is an open-source project within Linux Foundation to define, develop and test the APIs. CAMARA works in close collaboration with the GSMA Operator Platform Group to align API requirements and publish API definitions and APIs. Harmonization of APIs is achieved through fast and agile created working code with developer-friendly documentation. API definitions and reference implementations are free to use (Apache2.0 license).

Camara is supported by:

Meetings

- Regular Virtual Meetings
- Bi-weekly
- Tuesday, 08:00 UTC (09:00 CET, 10:00 CEST)

Contributor ship & Mailing List

✓ Subscribe

CCB (Subproject)

✓ CAMARA Number Recycling

FAQs

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Number Recycling API / FAQs

What does the Number Recycling API do?

It allows organizations to check whether a mobile number has been recycled or reassigned since a given date — ensuring messages, credentials, or notifications reach the rightful owner.

Why is number recycling important for businesses?

Mobile numbers are periodically reassigned by operators. Without visibility into these changes, businesses risk sending sensitive data to new owners, violating privacy rules or causing fraud incidents.

Which industries benefit most from this API?

The Number Recycling API benefits sectors where trust, identity verification, and secure communication are critical — such as banking, eCommerce, digital identity, utilities, healthcare, and public services — any sector using mobile numbers for authentication, notifications, or communication.

What input does the API require?

A phone number and a reference timestamp (RFC 3339). The API returns whether the number has changed ownership since that date.

- specifiedDate: Specified date to check whether there has been a change in the subscriber associated with the specific phone number, in RFC 3339 calendar date format (YYYY-MM-DD).

What output does the API provide?

A JSON response with:

- phoneNumberRecycled (boolean), Set to true when there has been a change in the subscriber associated with the specific phone number after “specifiedDate”.

How does this API help with GDPR compliance?

It supports the accuracy and minimization principles (Articles 5 and 25), preventing communications to unintended recipients and avoiding data leaks.

Number Recycling API / FAQs

Can it be combined with other APIs?

Yes. The Number Recycling API is designed to work alongside other Open Gateway identity and risk APIs for stronger validation flows. It can be combined with:

- **Number Verification**, to confirm that the number currently belongs to the user interacting with a service.
- **SIM Swap**, to detect if a recent SIM replacement may indicate account compromise.
- **Line Tenure**, to assess how long the current user has owned the number, providing additional trust and helping distinguish between long-term active subscribers and recently reassigned ones.

Together, these APIs create a multi-signal framework that improves security, prevents data leakage, and supports compliance — all through operator-verified, privacy-by-design information.

Can the API detect temporary service suspensions or porting events?

No. The API focuses specifically on ownership change (recycling) events.

Can the API help reduce customer-support workload?

Yes. By proactively identifying recycled numbers, companies avoid incidents where messages or OTPs reach unintended users, cutting support tickets, manual corrections, and complaint handling.

What happens if a recycled number is detected?

The business application can automatically block or revalidate the user session, trigger a step-up authentication (e.g., document check or email validation), or mark the contact as inactive in the CRM.

What makes this signal uniquely “telco-grade”?

It’s built on authoritative network data, continuously updated as part of the operator’s subscriber lifecycle. This gives it a trust and timeliness level that no external data source can match — making it ideal for financial services, healthcare, and digital identity use cases.

Other relevant information

07

Discover more

Join our Developer Hub

Join the **Telefónica Open Gateway Developer Hub** to test our APIs, develop use cases with the power of the network and improve user experiences.

https://opengateway.telefonica.com/en/developer-hub

Enroll our Partner Program

If you are interested in the potential of Telefónica Open Gateway and you are willing to collaborate with us, you can **enroll our exclusive Partner Program.**

https://opengateway.telefonica.com/en/partner-program

Subscribe our newsletter

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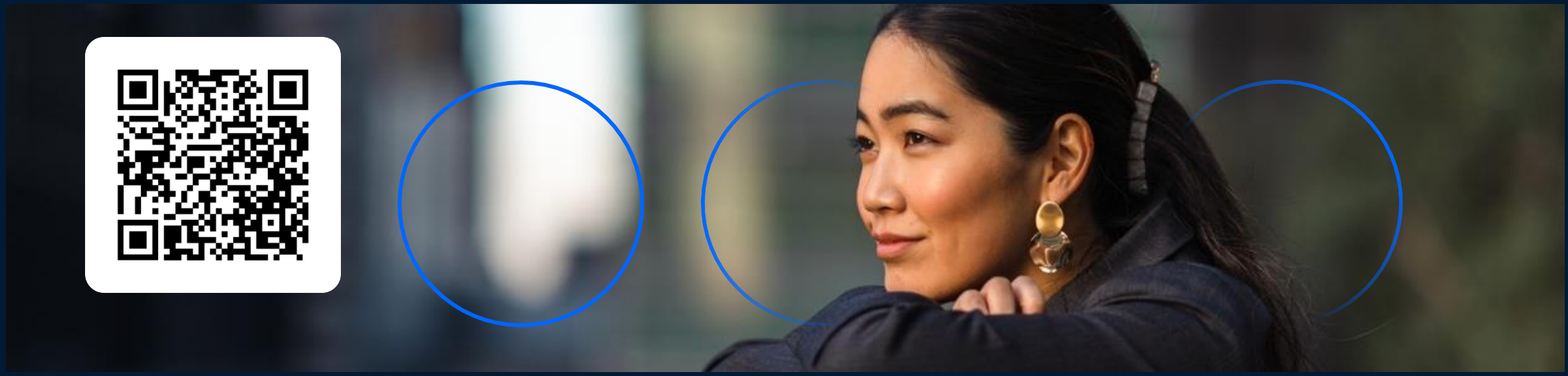
https://opengateway.telefonica.com/en/newsletter

Contact our experts

If you have any questions about the initiative, don't hesitate to **contact our experts.**

https://opengateway.telefonica.com/en/talk-to-expert



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