



52nd ASECAP DAYS

Challenges of Future
Mobility | The Role of Road
Infrastructure



Organized by  ASECAP

Hosted by  seopan
Asociación de Empresas Constructoras
y Concesionarias de Infraestructuras

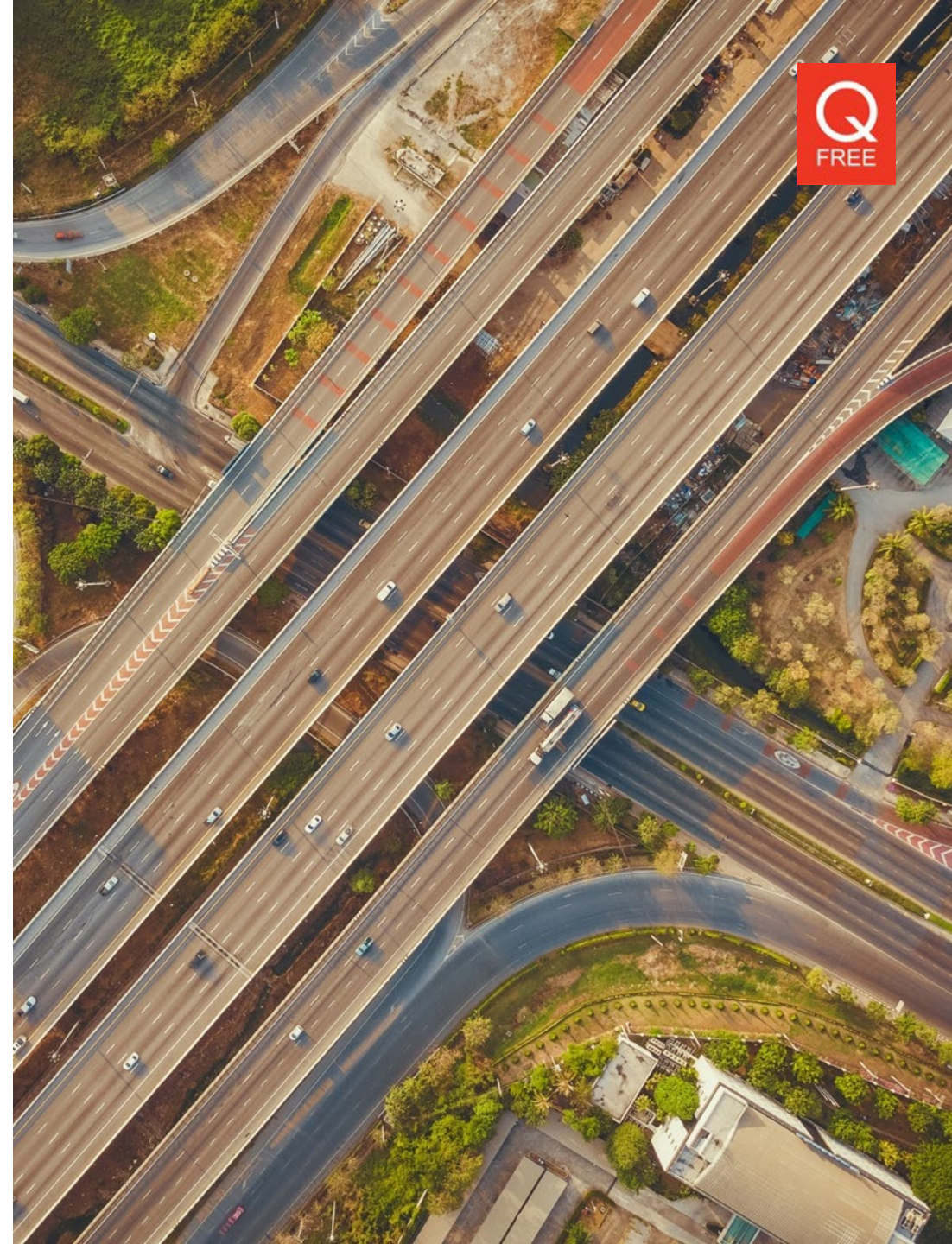
26 - 28 May 2025 | Madrid
www.asecapdays.com

Innovation in Tolling without ignoring the basics

VP Western & Southern Europe
Q-Free

What I will be presenting today

- About Q-Free
- Tolling evolution and the basics
- Trends and market environment
- Innovation while protecting the basics/Tag4All



About Q-Free

We go to work every day hoping to do two things; improve mobility and make the world a little better.



Founded in 1984
in Norway



Global company
with focus on ESG

Business areas

- Tolling
- Traffic Management



370 passionate
team members



50+ successful
reference markets

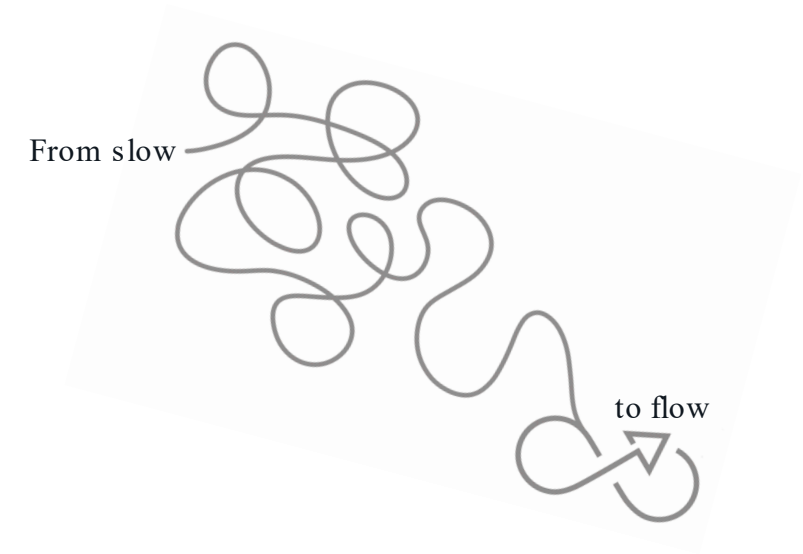
Solid references in Electronic Tolling in Southern Europe



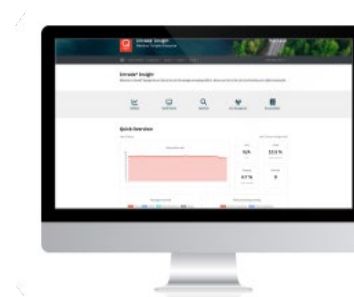
+ 200 MLFF tolling points
installed in Portugal and Spain



First Q-Free MLFF system
under delivery in France



Several millions of DSRC On Board
Units delivered over the past years



Back Office Systems



Digital Tachograph,
DSRC for petrol stations

Tolling Evolution and the Basics

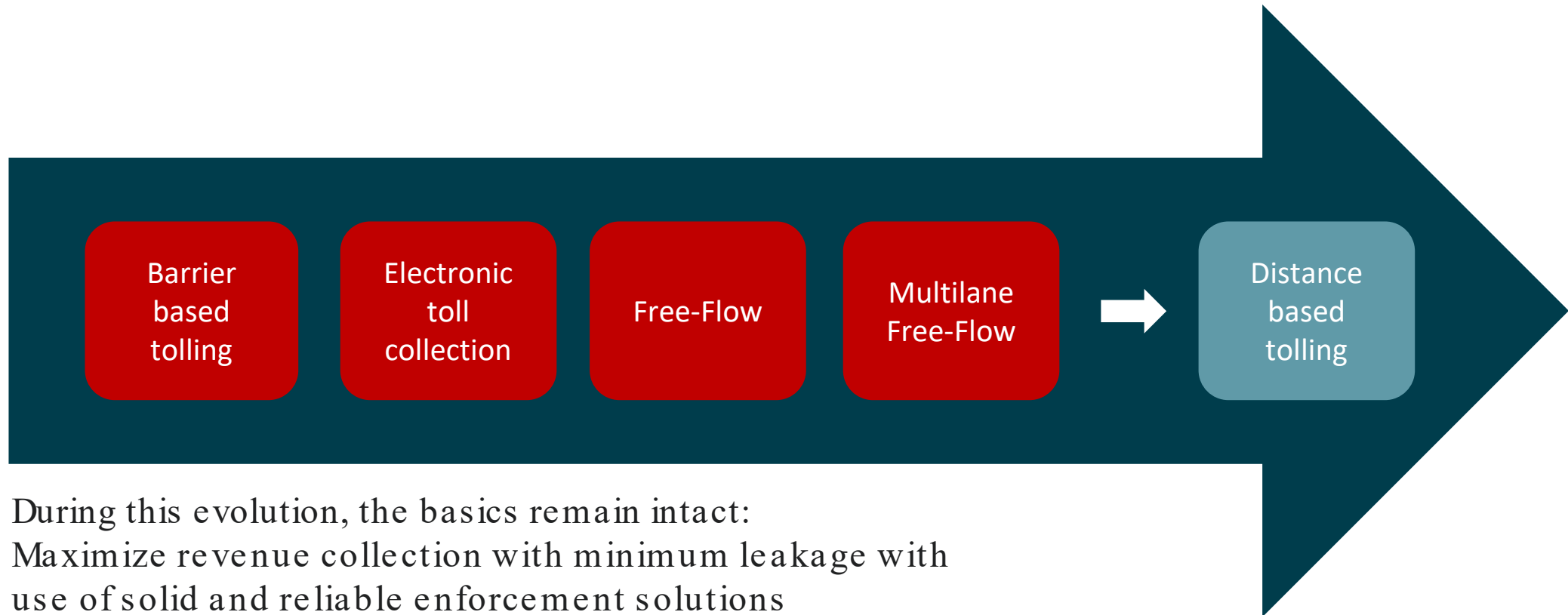
Tolls have been around us for centuries

They began as very basic solutions and little traffic, based on manual operations



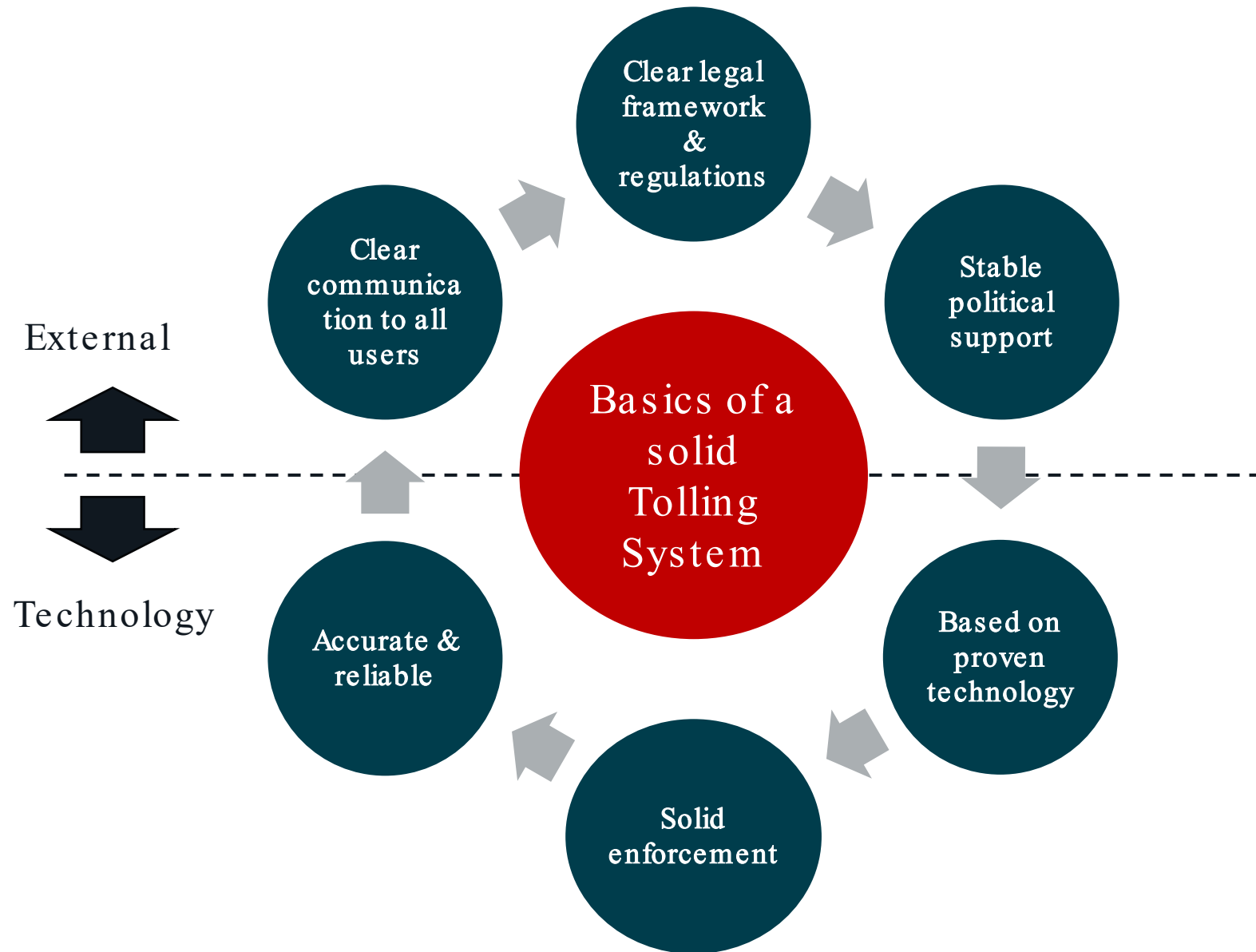
Tolls have been around us for centuries

They began as very basic solutions and little traffic, based on manual operations



During this evolution, the basics remain intact:
Maximize revenue collection with minimum leakage with
use of solid and reliable enforcement solutions

Basics of a solid tolling system



Trends and market environment

Market trends in electronic toll collection:

Innovations in tolling still will depend on high accuracy of “the basics” (i.e. DSRC and ALPR)



Innovation while protecting “The Basics”/Tag4All

Q-Free's Tag4All addresses several of the future needs

- ✓ **Cost efficient OBU**
 - Cost efficient hardware
 - Battery powered, ensures no installation costs
- ✓ **Ease of use**
 - Install in the windshield and forget it
 - Long battery lifetime allow replacement as part of service
- ✓ **GDPR compliance**
 - Q-FREE thick client solution is fully GDPR compliant
- ✓ **Scalability**
 - Q-FREE operation used to handle millions of DSRC tags
 - Battery replacement will be established by Q-FREE
- ✓ **Flexibility**
 - Tag4All supports zones with different pricing
- ✓ **Accuracy**
 - Must be perceived as accurate
- ✓ **EETS compatibility**
 - Tag4All is EETS compliant

Excellent when combined with Q-Free's long experience on enforcement solutions (DSRC and ALPR)



Tag4all technical solutions

- ✓ **Position detection with redundancy**
 - GNSS
 - IMU (Accelerometers and barometer)
 - Use IMU to fill in gaps between GNSS points and to save battery by turning GNSS off
- ✓ **Cloud connection**
 - LTE-m
 - To save battery: Connect only when needed
- ✓ **Edge computing**
 - Calculation of fees in local MCU
- ✓ **Enforcement**
 - DSRC enforcement with ALPR backup



Key take aways

- We can't ignore innovation, but we need to continue optimizing our customers' profitability over the complete project lifecycle.
- Innovation, like RUC and Tag4All, brings advances to tolling (e.g. distance-based tolling, dynamic pricing), but it has to be backed up by the basics of DSRC, ALPR.



ASECAP DAYS



MADRID 2025

Thank You

Contact Us



+34 653 152 495



luis.miranda@q-free.com



www.q-free.com