

PTOLEMUS Consulting Group

Electronic Toll Collection Global Study

2015 Suppliers Ranking



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PTOLEMUS is the first strategy consulting firm focused on the connected vehicle and the Internet of Things

Our consulting services

Strategy definition

Vision creation, strategic positioning, business plan development, board coaching & support

Investment assistance

Strategic due diligence, market assessment, feasibility study, M&A, post-acquisition plan

Procurement strategy

Specification of requirements & tender documents, launch of tenders, supplier negotiation & selection

Innovation management

Value proposition definition, product & services development, architecture design, assistance to launch

Business development

Partnership strategies, detection of opportunities, ecosystem-building, response to tenders

Technology & project management

Deployment plans, complex / high risk project & programme management, risk analysis & mitigation strategy

Our fields of expertise

Car infotainment & navigation

Connected services (Traffic information, fuel prices, speed cameras, weather, parking, POIs, social networking), driver monitoring, maps, navigation, smartphone integration

Usage-based charging

Road charging / electronic tolling, PAYD / PHYD insurance, fleet leasing & rental, car sharing, Car As A Service, etc.

Telematics & Intelligent Transport Systems

ADAS, autonomous car, connected vehicle, fleet management, eCall, bCall, SVR, tracking, vehicle data analytics (OBD / CAN-bus), VRM, V2X, xFCD

Positioning / Location enablement

M2M & connectivity

We help all players in the mobility ecosystem

Analytics providers



Automotive manufacturers & suppliers



Mobile telecom operators



Applications providers



Telematics solution providers



ITS operators, regulators & fleets



Device / location suppliers



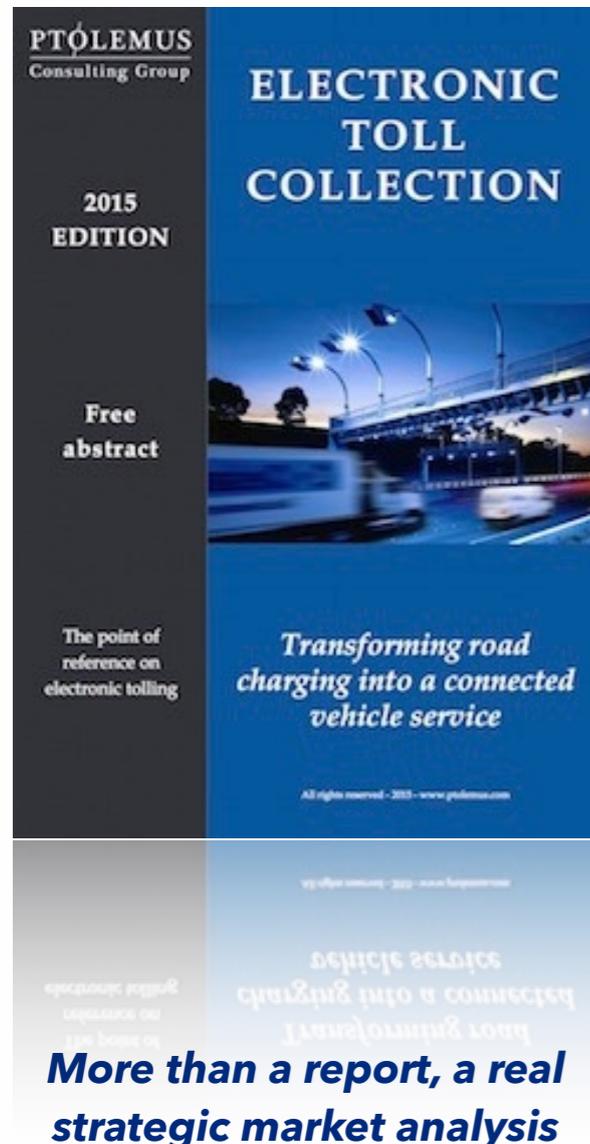
Insurers, aggregators & assistance providers



Banks & private equity investors

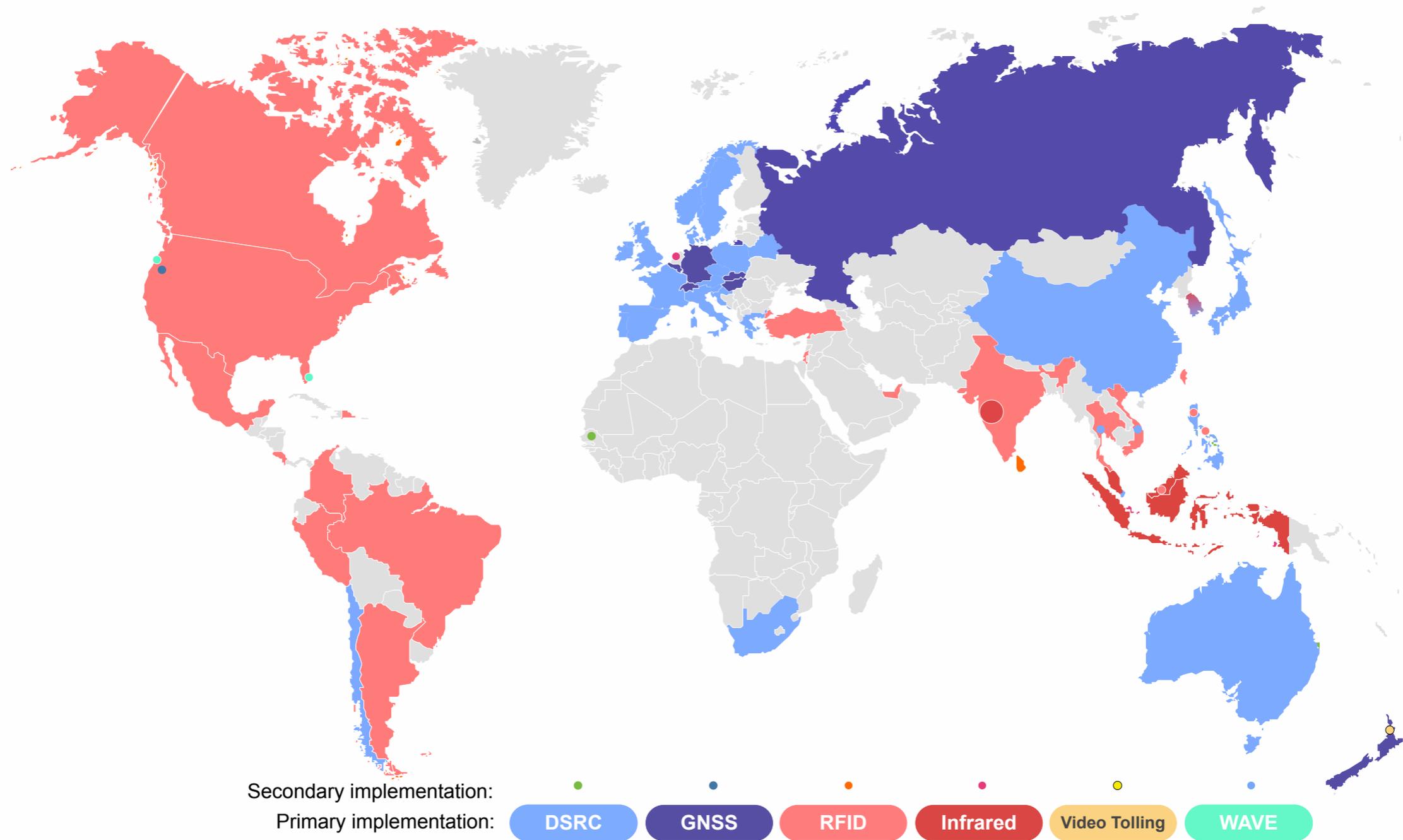


PTOLEMUS published the most comprehensive analysis of the opportunities in road charging



- **650-page analysis of the global electronic tolling landscape based on:**
 - 120 interviews in 12 countries
 - 230 figures and charts
 - 3 years of hands-on experience advising key players in the ecosystem
- **A comparative assessment of all tolling technologies, models and trends**
 - ANPR, DSRC, Infrared, GNSS, RFID & WAVE technologies & business models compared
 - Evolution path from toll gates, ETC to MLFF
 - The new trends: big car data, mobile tolling, mobility pricing and sustainable mobility
- **An in-depth review of ETC markets worldwide**
 - 35 countries in Europe, America, Asia & Africa profiled and analysed
 - 14 case studies including ATI, AutoPass, BroBizz, Ecotaxe, e-way, Hu-Go, LKW Maut, PrePass, Via Verde, etc.
- **A decryption of regulatory evolutions**
 - Bill 810, eCall, EETS, ERA Glonass, REETS, Resolution 005 AGEPAR
 - 43 standards & all major patents listed: 6C, ARTEFATO, CEN, ETSI, ISO, etc.
- **A detailed analysis of all major players' strategies & solutions**
 - Their development strategies in the new value chain compared
- 23 company profiles, from Atlantia to Xerox
- 35 tolling markets compared
- **Toll operator market models**
 - Toll connected services opportunity analysis
 - Markets' readiness for connected services
 - Integration with 11 VAS and 5 connected services
- **2010-25 bottom-up market forecasts**
 - Estimates of the number of devices sold, vehicles subscribed by technology & vehicle type
 - **36 countries covered** in Europe, North America, South Africa, India, China, Japan, Korea and South East Asia

Based on a thorough investigation of the global ETC market



Comprised of 650 pages of facts, figures, examples, case studies, forecasts and recommendations

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16. Taiwan

VI. Conclusions and recommendations

We provided rankings as a strategic tool for road charging decision makers

25 supplier profiles complement the ranking

The image displays a grid of 25 supplier profiles, organized into two rows of five profiles each. Each profile includes:

- Company Logo:** Located at the top left of each profile.
- Key Facts and Figures:** A table with columns for Company type, Year Founded, Number of Employees, Revenue, Market cap, Customers, Headquarters, and Main shareholders. Each row contains specific data for that company.
- Geographical Presence:** A world map with colored dots indicating the company's operational regions.
- Relevant OBU range:** A section showing images of On-Board Units (OBUs) and their technical specifications.
- Activities per geography:** A bar chart showing the company's activity across different geographical regions (North America, South America, Africa, Asia, Europe, Australia).

- The rankings deliver an **independent assessment** of the leading suppliers across each stage of the value chain:
 - Systems integrators
 - Technology providers
 - Service providers
- The rankings were
 - Compiled with their **customers in mind**
 - Segmented by geographical market
 - **Based on facts**, company experience and expertise
- The only clear view on the leading suppliers in a complex global market, the rankings assess 50 companies, resulting in a unique tool for ETC purchasers and decision makers across all geographical areas

**These rankings should not be seen as a substitute for a formal RFP. In particular, we recognise that it is difficult to assess the service elements of each solution without an actual trial of the product.*

*** We would like to stress that the ranked providers are not all clients of PTOLEMUS, nor have the rankings been influenced by any client relationships*

A core set of criteria was applied across all groups

- In order to collect the required information, **a detailed questionnaire was provided** to each of the companies we assessed.
- We have applied a number of core criteria across all groups, In all cases PTOLEMUS has evaluated a company's available products and services and scale based on data provided by them and information available to us, placing particular emphasis on the company's current activities, size and capabilities.
- **Criteria applied to all companies across each group included:**
 1. The focus on ETC, including share of revenue in ETC related activities and market entry date
 2. Global footprint
 3. Long-term sustainability, size, profitability and reliance on single markets
 4. Market share, sales record and variety of customers
 5. Innovative character of the company and the solutions offered
 6. Experience and track record

*Due to the specific nature of the market, we have only included European service provider rankings

A specific, fact-based methodology was then applied to individual groups

Systems integrators



- Range of toll technologies supported
- Range of toll styles and models catered for, including market specific designs such as HOV and HOT lanes
- The ability to produce and deliver own equipment such as tags and OBUs
- The level of integration offered
- Enforcement capabilities
- Number of registered accounts
- Number of individual active tolling programmes
- Market reach
- Experience and track record

Technology suppliers



- Range of toll technologies provided across on board and fixed devices
- Range of toll styles and models supported
- Range of devices and equipment currently deployed
- Number of delivered devices
- Number of active tolling programmes supported
- Scale of activity
- Market strength

Toll Service Providers



- Number of countries covered by the payment solution and number of countries additional services are provided within
- Range of services in addition to tolling payment
- Range of financial services provided to fleet customers such as VAT return
- Range and combination of devices and equipment provided such as on board units and fuel cards
- Company structure and competition
- Scale of service and active portfolio

Kapsch TrafficCom and DKV are leading the pack



Kapsch TrafficCom

#1

Worldwide systems integrator



Kapsch TrafficCom

#1

Worldwide technology supplier



DKV Euro Service

#1

European service provider

European integrators dominate the global market

Top worldwide systems integrators



#1 Kapsch TrafficCom



#2 Autostrade
(incl. Electronic Transaction Consultants)



#3 Sanef ITS
(Abertis)

A diverse range of systems integrators have found opportunities in Asia

Europe

#1

Kapsch TrafficCom

#2

Autostrade (Atlantia)

#3

Sanef ITS (Abertis)

#4

EFKON

#5

Q-Free

The Americas

#1

Kapsch TrafficCom

#2

Autostrade (Atlantia/ETC)

#3

TransCore

#4

Xerox

#5

Sanef ITS (Abertis)

Asia-Oceania

#1

Kapsch TrafficCom

#2

Mitsubishi Heavy Industries

#3

EFKON

#4

Q-Free

#5

Egis Projects

Suppliers offering a full range of technologies find the greatest opportunities

Top worldwide technology suppliers



#1 Kapsch TrafficCom



#2 Autostrade Tech



#3 Q-Free

Automotive specialists lead the way in GNSS technology

Worldwide technology suppliers ranking by technology

GNSS

#1

Continental

#2

Magneti Marelli

#3

BOSCH

DSRC

#1

Kapsch TrafficCom

#2

Autostrade Tech

#3

Q-Free

RFID

#1

Kapsch TrafficCom

#2

TransCore

#3

3M

ANPR

#1

Kapsch TrafficCom

#2

EFKON

#3

Autostrade Tech

A highly competitive market split between tolling specialists and multi-service fleet providers

Tolling specialists

#1

Telepass

#2

Eurotoll

#3

Axxès

Multi-service providers

#1

DKV Euro Service

#2

Union Tank Eckstein (UTA)

#3

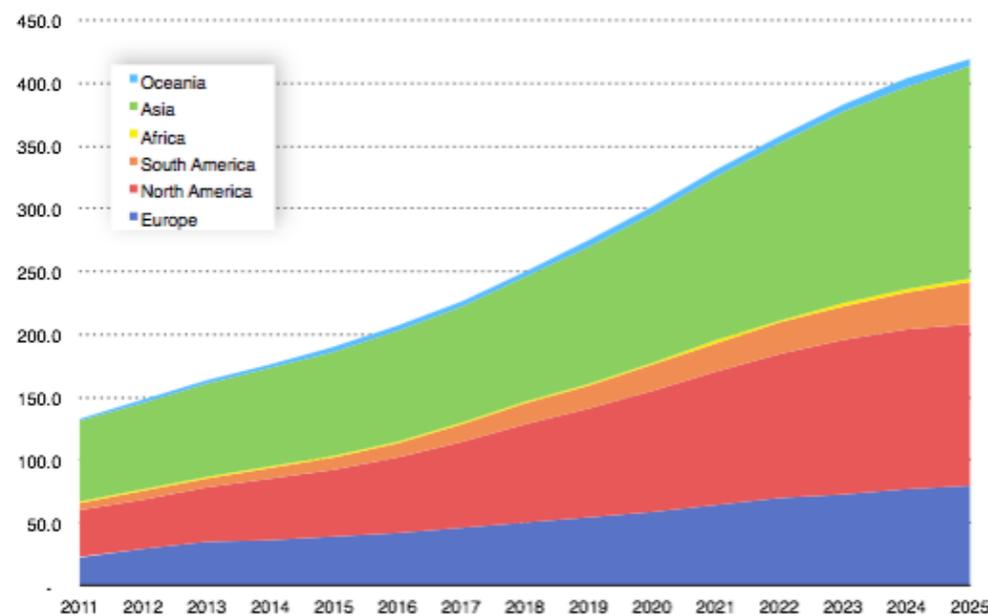
Shell

Note: Tolling specialists = Service providers offering tolling payments as their core proposition

Multi-service Providers = Service providers offering a wider range of fleet payments and services, which incorporate tolling alongside these

Plenty of competition and plenty of opportunities

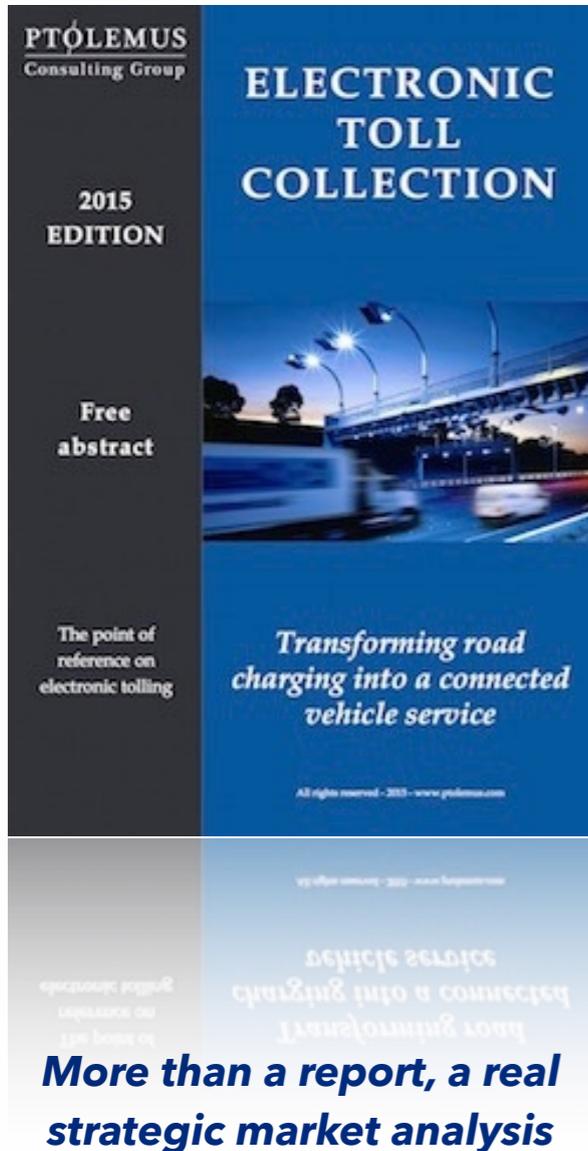
Total number of ETC subscriptions worldwide*



*Extract from the ETC Global Study

- Europe and North America are well served by established integrators, in contrast to Asia-Oceania, which is far more open and lacking regional heavyweights
- The growth of GNSS systems will attract new players to the device market, challenging existing tolling providers
- Few DSRC technology suppliers are active in the RFID market
- Tolling specialists and fleet providers will continue to battle for market share in Europe

The 650-page study is provided as a searchable PDF document with a global company licence



Reports	Full Study	Full Study with market forecasts
Contents	<ul style="list-style-type: none"> • 650 pages • Electronic version (pdf format, password-protected) 	<ul style="list-style-type: none"> • 650 pages • Electronic version (pdf format, password-protected) • 10-year market forecasts outputs & charts (Excel, password-protected)
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For more information, contact Thomas Hallauer at thomas@ptolemus.com or call +44 7973 889 392

[Click to download the 95 page ETC Global Study free abstract](#)

PTOLEMUS Consulting Group
Strategies for Mobile Companies



Brussels - Boston - Chicago - Hamburg - London
Milan - New York - Paris - Vienna

contact@ptolemus.com

www.ptolemus.com

@PTOLEMUS

Thomas Hallauer, Research Director

thallauer@ptolemus.com

+44 7973 889 392

Justin Hamilton, Business Analyst

jhamilton@ptolemus.com

+44 7984 788 395