



# Telematics

IMAP M&A SECTOR REPORT

# Telematics\* sector – executive summary

An evolving market with high M&A potential



## TELEMATICS MARKET EXPANSION

The broad application and range of telematics solutions and value-added services is attracting new players, new solutions and new business models which are contributing to rapid expansion of the overall market.



## 100+ COMPLETED ACQUISITIONS BETWEEN 2010 - 2016

Continuously evolving market with great opportunities for new and existing telematics market players, resulting in increased M&A activity.



### KEY DRIVER

Market players and even outsiders are racing for access to knowledge, end users and data collected.



### HIGH VALUATIONS – 13.4x AVERAGE EBITDA TRANSACTION MULTIPLE

The positive market outlook and high growth potential of the telematics market suggest higher valuation multiples.

\*Automotive telematics is a collection of automatic vehicle connectivity solutions usually based on cellular technology for both private and business users.

# Telematics market in M&A perspective

## Report overview

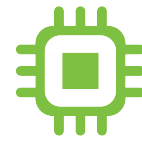
### TELEMATICS MARKET



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### M&A FOCUS

Continuously evolving market with great opportunities for existing and new telematics market players, resulting in increased M&A activity.



### IMAP

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# Telematics

IMAP M&A SECTOR REPORT

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IMAP

# Market outlook and summary



## Evolving telematics market with high M&A potential

- The expanding range of telematics applications enables advanced support and value-added services for both private and business users in the fields of Mobile Resource Management (MRM) and Machine-to-Machine (M2M), navigation & location based services, insurance telematics, Vehicle-to-Vehicle infrastructure & auto safety as well as infotainment & content.
- The continuous evolution and growth of the telematics market supported by strong end-user expectations forces existing and new market players to invest in the further development of telematics solutions.
- New market players and solutions lead to new business models which result in new cooperation opportunities between different industries. The expanding range of industries interested in telematics is expected to increase M&A activity in the market.
- Automakers and hardware manufacturers are seeking knowledge and new solutions in terms of software and hardware with different integration levels.
- Vast telematics data can also attract investors utilizing synergistic opportunities with their businesses.

- In the upcoming years companies of even more distinct industries are expected to begin using telematics applications to develop new business models, for example, insurance companies introducing Usage-based insurance.

### Valuation level of telematics companies

- The positive market outlook and high growth potential of the telematics market suggest higher valuation multiples. Valuation levels are affected by the range of value added services.
- The selected peer companies in developed countries usually offer more value-added services and more diverse activities, resulting in high EV/EBITDA valuation multiples above 10.
- The low number of mostly Western European and North American transactions with known valuation multiples vary widely, often exceeding the EV/EBITDA multiple of 10.

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# Telematics in brief

## Vehicle connectivity solutions providing value-added services for private/corporate use



### Definition

- Telematics is a collection of automatic vehicle connectivity solutions usually based on cellular technology for both private and business users.
- Telematics technologies provide two-way wireless communication possibilities for vehicles regardless of their geographical location.



### Characteristics

- The solutions and services addressed to achieve the goals for both end-user groups exceed simple satellite navigation and tracking. Applications like driver behavior monitoring, internet connectivity and remote access also have become more common.
- Telematics solutions provide Big Data scale information which can be used in various ways, including safety, better traffic control, cost efficiency, and even the development of autonomous cars.
- Telematics services have a shorter life cycle than the automotive industry, challenging car makers and automotive OEMs to catch up.



### Trends

- The widespread mobile communications technology constantly connecting the entire world including individuals, businesses and machines is targeted to be implemented in the automotive industry.
- Automotive OEMs and the leading carmakers have started to implement various connectivity solutions.
- Telematics is still a rapidly evolving market as new solutions expand the range of services for end-users.
- The telematics market is expected to expand in the following years and attract several new players.



# Industry trends



## Underlying trends and drivers in the telematics industry

### Auto Market

- Automakers are seeking to expand the product offering in the existing car markets in developed countries and differentiate with in-car connectivity
- Opportunity to launch the ultimate connected car when electric vehicles are launched leading to investments in telematics
- Connected car technology supported by telematics is essential to develop autonomous driving

### Technology

- Increasing volume of data to be analyzed in advanced ways which will require more telematics service providers
- Telematics will enable predictive analysis in the automotive industry
- Innovation in apps and infotainment is satisfying an insatiable consumer demand
- Implementation of Intelligent Transport System (ITS) technology is boosting telematics growth

### Costs

- The ubiquity of advanced broadband access and the falling cost of wireless data gives customers more data for the same or lower cost
- New telematics based value added services to be introduced enabling cost efficient solutions to end-users such as usage-based insurance, smart maintenance services and vehicle diagnostics

### Regulation

- The benefits to both Governments and motorists in safety and reliability will likely encourage favorable legislation
- The sensitive data collected from end users will need to be controlled to avoid privacy issues



# Goals of telematics for different end users

Benefits and user expectations can be classified for every market



- The broad application range of telematics provides value-added services for both individual and corporate end users.
- Individual users are seeking better user experience and advanced safety.
- Business users are primarily aiming at better utilization of their assets and cost efficiency.
- Some telematics goals attract both end-user groups, like advanced driver assistance, connectivity, security and safety.
- In terms of hardware implementation for the two end-user groups, the methods applied are not sharply separable, varying from complete built-in systems by OEMs to smart phone integration.

## M&A focus

Different goals and end-users are further expanding the scope of telematics.

# Applications and services 1/3



## Traffic information captured in the car has multiple uses outside the car

### MRM & M2M

- The Mobile Resource Management (MRM) and Machine-to-Machine (M2M) sectors have historically led the way in the utilization of and position in the telematics ecosystem.
- MRM market drivers continue, and include better commercial fleet productivity (routing, fuel cost reduction, driver monitoring, reduced maintenance), improved customer service (timely response times, real-time status) and improved risk management, driver safety, and driver behavior monitoring and improvement.
- MRM customers are looking for more comprehensive and integrated systems due to the numerous applications now available to commercial fleet operators.
- Issues in MRM include purchasing an in-vehicle device (black box) vs. smartphone apps.
- The M2M market potential is enormous and expanding rapidly – the “Internet of Things”.

### Navigation & location based services

- Widely adopted and accepted by consumers and commercial enterprises.
- Key trends include developing more personalized and context aware applications to improve the in-car application experience.
- Sector drivers include 4G technology, proliferation of in-car camera technology, public safety (eCall), wearables, infrastructure, connected cities, legislative requirements and the harnessing of Big Data.
- Need for an established open platform to allow seamless integration of 3rd party services and developing hybrid navigation systems combining remote servers providing real-time data services with embedded in-car components are a big focus.
- Longer term opportunities with the rise of smart cities, and integration with a wider range of systems, public transport, city traffic management, and connected vehicles.

# Applications and services **2/3**

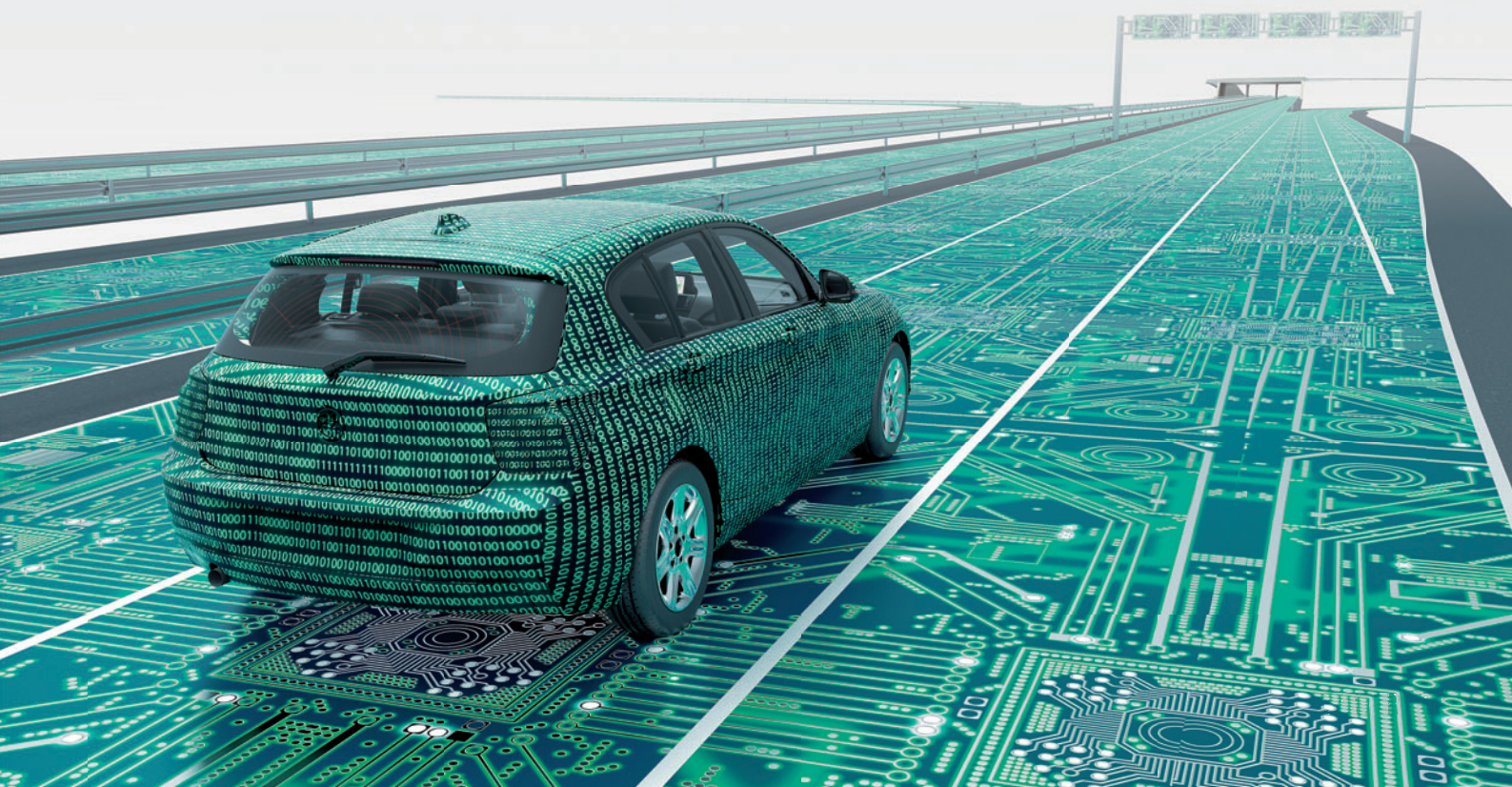
## Improving motorist safety and reliability

### Insurance telematics

- Usage-based insurance (UBI) utilizing telematics is a potential “game changer” albeit at an early stage. It is a currently growing steadily but waiting to join the mainstream of the auto insurance sector.
- There is potential to improve customer satisfaction and safety, and reduce fraud and theft, however this may need to be packaged with other value added services to be compelling.
- Insurance companies are having a learning experience; information is in vast quantities and different from what they have seen historically (U.K. and Italy lead Europe ahead of the U.S.).
- Auto OEMs starting to include UBI solutions with own offerings.
- Telematics device options include black box vs. smartphone, with black box better for most value added services, however consumer cost and install expenses are issues.

### Vehicle-to-vehicle / infrastructure & auto safety

- Vehicle-to-vehicle and vehicle-to-infrastructure communication has numerous potential benefits and applications, especially related to driver safety (alerting drivers to imminent road risks and hazards ahead, as well as to other drivers).
- Additional benefits to safety include improved traffic flow (intersections, traffic light signals, traffic speed) and more extensive use of information in smart cities.
- Industry convergence – collaboration and agreed standards among OEMs, MNO’s, and 3rd party software and electronics suppliers is critical – as interoperability is essential and consumer rejection costs are very high.
- Privacy and security are big issues given the potential for hacking both data and automotive controls.
- There is a need to reach critical mass and consumer acceptance (extra cost is a consumer issue).



# Applications and services **3/3**



**M&A focus**  
Telematics has unleashed numerous capabilities and applications for both consumers and commercial enterprises supporting new business models.

## Entertainment on the move

### Infotainment & content

- The main focus of automakers is to enhance the post-purchase experience and relationship, improve efficiency and customer service via OTA updates and CRM.
- However, evolving technologies, platforms and consumer behavior add to the complexity and increased caution by automakers and partners in the evolving ecosystem.
- Home-to-car solutions are emerging, exploring ways of integrating connected vehicle technologies with home electronics.
- The complexity of Big Data and how to build new services around plethora of information given data security and safety issues are paramount.
- Wearables are in the early stage of adoption, and are expected to be led by digital health.
- Issues with automakers and 3rd parties include revenue share, which apps are included, and loss of control of product/customer (Apple & Google).

# Hardware integration

## Different hardware solutions still significant in the market

### Hardware solutions of telematics based on their integration level in the vehicle

	Complete built-in systems by automotive OEMs	Afterwards built-in systems	Smartphone integration
Integration level and reach of the vehicle's systems	<b>HIGH</b> Closed system enabling remote access	<b>GOOD</b> Modular system enabling remote access	<b>LOW</b> Open system no remote access
Installation costs	<b>HIGH</b> Extras offered by automotive OEMs	<b>MEDIUM</b> Device and software installation	<b>LOW</b> Purchase of a smartphone and apps
Upgrade possibilities - Hardware - Software	<b>LOW</b> - Limited and expensive - Slow and expensive	<b>GOOD</b> - Requires professionals - Periodical upgrades	<b>HIGH</b> - New smartphone - Download apps
Reliability	<b>HIGH</b> Strong hardware with optimized software	<b>GOOD</b>	<b>MEDIUM</b> Can be unreliable
Re-installation in case of vehicle change	<b>NONE</b>	<b>LOW</b> Not cost efficient compatibility problems	<b>GOOD</b>
Life cycle	<b>LONG</b> Vehicle's life cycle	<b>MEDIUM</b> Less than the vehicle's life cycle	<b>SHORT</b> Life cycle of smartphones

### M&A focus

Digitalization is resulting in higher integration, however other solutions still can be successful. Automakers and hardware manufacturers are seeking knowledge and new solutions.



# Telematics data

## Individual and collective use of Big Data scale telematics data

### Private and business use of telematics data collection

Telematics data	Individual use	Collective use
Location	Navigation Tracking Theft protection	Traffic information Road conditions
Vehicle's technical information	Safety Maintenance and diagnostics	Development of vehicles
Driver identity and behavior	Eco-tips and cost efficiency Personal settings	Car sharing Usage-based Insurance
Driver's personal and communication data	Infotainment Communication	Connectivity Additional content

### Robust Market Dynamics

- The range of data collected varies in terms of privacy sensitivity. The privacy issues are similar to the case of smartphones.
- The sum of benefits for consumers must exceed all the efforts and costs required in order to increase general acceptance of data collection.
- The collective use of data gathered is reaching Big Data scales and can be used to support all fields of the automotive industry and every day life in terms of transportation.
- Specialized software companies like PTV Group are utilizing car data for a great range of commercial applications in the field of route optimization and transport planning, and also supporting the development of more efficient traffic control systems.
- Networking initiatives like RIO are increasing the efficiency and transparency of transportation. RIO is an open, manufacturer-independent, cloud-based platform combining information about tractor units, trailers, superstructures, drivers and orders with data about traffic, weather and navigation.
- There is already broad competition to gain access to valuable data and the final customer.

### M&A focus

The vast telematics data can also attract investors utilizing synergistic opportunities with their businesses, as proven by Google's acquisition of Waze.

# Evolution of telematics

## Evolution cycle of telematics



## A developing market fuelled by consumer demand and many new players on the field

- Telematics is mostly based on existing technologies (e.g.: satellite and GSM technology) with innovative and more complex integration and better connectivity.
- The new capabilities and solutions enable even more innovative opportunities to develop further value-added products and services.
- The new applications of telematics raises further interest of existing and new players to invest in the market. New business models are expected to be formed.
- Along with the business sector, individual consumers are starting to require advanced applications, similar to the evolution of smartphones in the last 10 years.
- The telematics ecosystem is evolving, becoming increasingly complex as the number of players, applications, products and services continue to increase and evolve at a rapid pace.

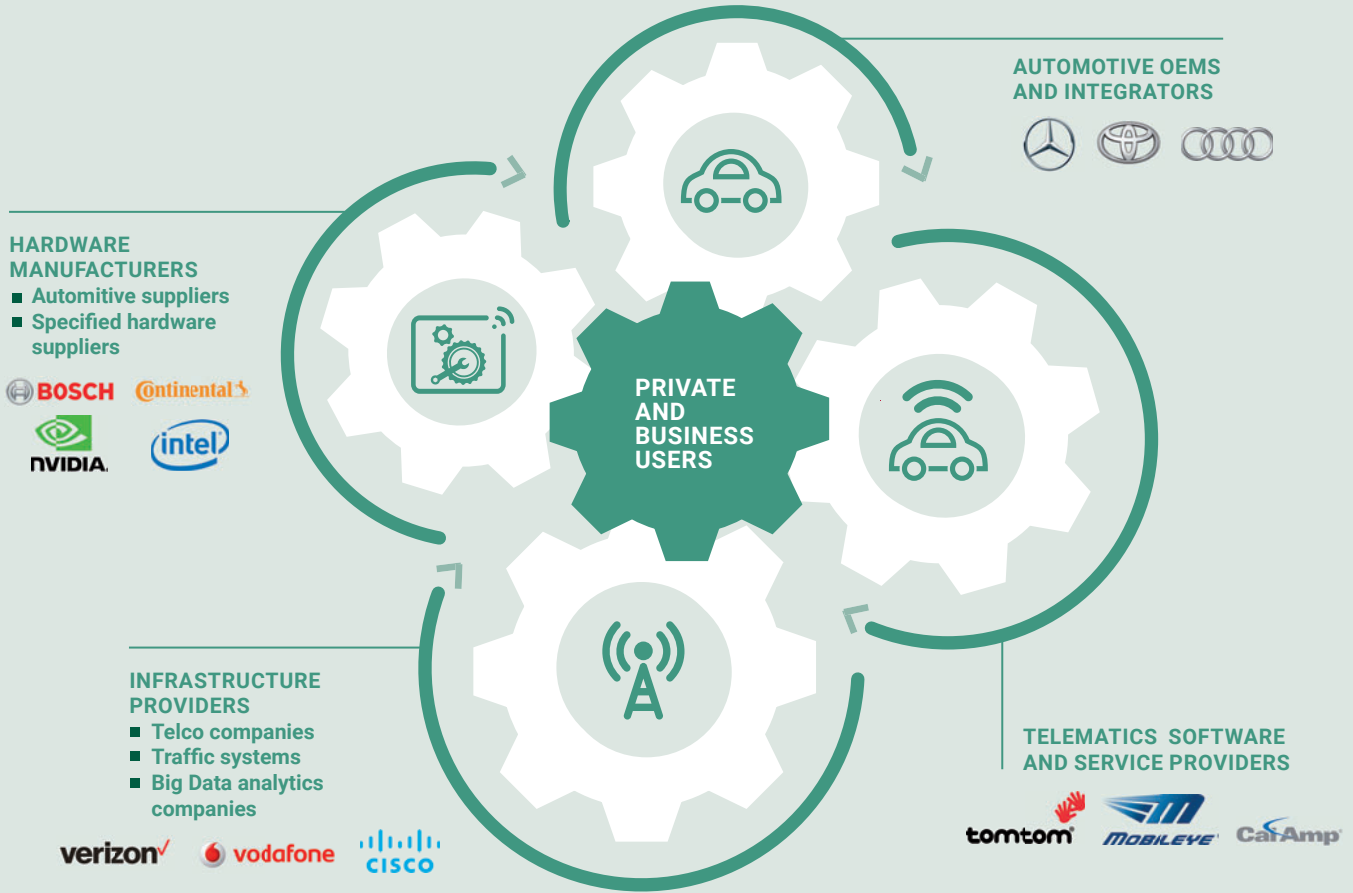


### M&A focus

An evolving market with good investment opportunities.

# Telematics players

Current and potential new players



## Outsiders:

- FLEET LEASING COMPANIES
- INSURANCE COMPANIES
- RFID PLAYERS
- FUEL CARD COMPANIES
- TECH COMPANIES
- SMARTPHONE PROVIDERS
- OTHER M2M OR WIRELESS COMMUNICATION COMPANIES

- The evolution of telematics results in new business models which can change the current connections of market players and attract outsiders to join the market.
- Current players might be interested to offer new services that were not involved before (e.g.: auto OEMs starting to include Usage-based insurance).
- For telco companies the obvious synergy can be earned through increased cellular data traffic and better utilization of their infrastructure. Telcos have also started to acquire telematics companies in the recent years (e.g. Vodafone Automotive division).

## M&A focus

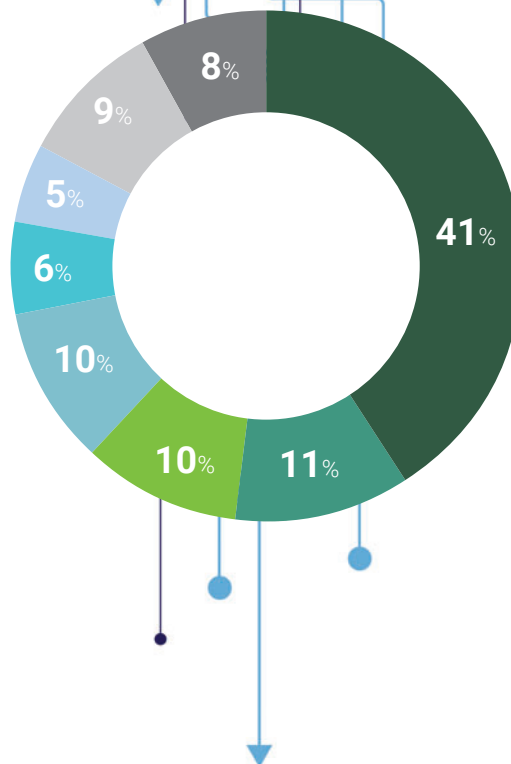
Formation of new business relations and outsiders entering the telematics market.



# Investors in the telematics and tracking space

- TELEMATICS AND TRACKING
- WIRELESS COMMUNICATION
- OTHER SOFTWARE
- AUTOMOTIVE
- OTHER ELECTRONIC EQUIPMENT
- FINANCE AND INSURANCE
- FINANCIAL INVESTOR
- OTHER

*Selection criteria: completed transactions worldwide with an acquired stake exceeding 50%*  
 Source: Zephyr



## Potential investors from different industries

- There were 109 completed acquisitions between 2010-2016, where the target was engaged in telematics and tracking solutions.
- 85% of the transactions were in North America and Western Europe.
- Most transactions were completed by the closer sector players engaged in telematics and tracking as well as in other wireless communication, consolidating the market.
- As consumer demand increased, automotive players started to integrate telematics companies through acquisitions. Insurance, telco, logistics and other service providers also entered the market through acquisitions.
- The high market expectations also attracted several financial investors.
- In the next few years companies of even more distinct industries are expected to start using telematics applications to develop new business models, for example insurance companies introducing Usage-based Insurance.

### M&A focus

High level of M&A activity in the segment is attracting a great variety of investors.

## Case Study - 1/5

Cobra Automotive Technologies SpA  
acquired by Vodafone



*"The combination of Vodafone and Cobra will create a new global provider of connected car services. We plan to invest in the business to offer our automotive and insurance customers a full range of telematics services."*

**MR ERIK BRENNEIS**

DIRECTOR OF M2M – VODAFONE  
08.08.2014.

SOURCE: THE TELEGRAPH

Vodafone made a successful voluntary tender offer to acquire all of the outstanding shares of Cobra Automotive Technologies SpA (Cobra) in 2014Q3 for an equity value of EUR 145 million. Cobra was delisted from Borsa Italiana after the transaction.

Cobra is engaged in the development of telematics software that gathers information from the vehicles' computer controlled systems, as well as anti-theft and parking assist systems. Cobra had revenues of EUR 145 million and EBITDA of EUR 17 million in 2013.

Due to the increasing application range of Internet of Things (IoT), mobile operators expect their networks to be used for far beyond simple personal communication.

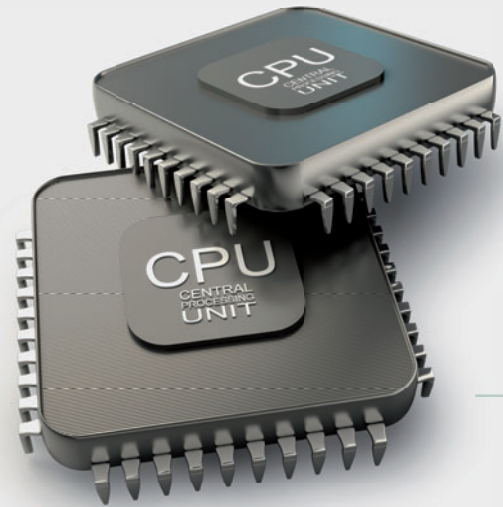
As one of the leading M2M market players among telco companies, Vodafone acquired Cobra to strengthen its position in telematics and the connected car sector. The acquisition also enables Vodafone to broaden its applications portfolio to other verticals (e.g. Usage-based Insurance).

Further investments are expected in Vodafone's machine-to-machine business in order to offer a full range of telematics services to automotive and insurance customers.

**IMAP's Italian member firm** assisted Cobra in debt advisory & restructuring before the transaction.

## Case Study - 2/5

Rapita Systems acquired by  
Danlaw



*"Rapita fits perfectly with the aggressive growth goals set for our engineering solutions division. Our strategic plan included further addition of software engineering tools and global expansion of our engineering services; this acquisition delivers on both. We welcome the Rapita team into the close-knit Danlaw family."*

**MR RAJU DANDU**  
CHAIRMAN OF DANLAW  
12.04.2016.  
SOURCE: RAPITA SYSTEMS

Danlaw, Inc., a US based global telematics, connected vehicle, automotive electronics and embedded engineering enterprise, has acquired Rapita Systems Ltd., the leading provider of real-time verification solutions for aerospace and automotive embedded systems.

Rapita Systems Ltd., located in York, UK, specializes in providing on-target software verification solutions for large, critical real-time embedded software systems in the avionics, space and automotive electronics markets. Rapita Systems' unique tools and services enable customers to reduce the cost and effort to perform software verification for critical embedded systems.

Danlaw specialty areas include embedded systems development and testing for Embedded Control Units (ECUs), vehicle network communications,

infotainment, and telematics. Their customers include Automotive OEMs, automotive electronics suppliers, fleet and automotive insurance companies worldwide.

With the integration of Rapita products, Danlaw has strengthened its portfolio of embedded software tools to include on-target testing. This extended tool suite further addresses the needs of automotive and aerospace functional safety requirements.

"This acquisition opens great opportunities for Rapita to consolidate and to grow its customer base, in particular to expand the operations in the USA. Our customers will benefit from our combined toolset and expertise along with a worldwide engineering service infrastructure." says Dr. Guillem Bernat, CEO of Rapita Systems.

**IMAP's affiliate office in London advised Rapita Systems** on the sale of the company to Danlaw Inc.

## Case Study - 3/5

Tenstreet receives recapitalization  
from Spectrum Equity



**SPECTRUM  
EQUITY**



*"The team did a great job at helping us to secure an investment from Spectrum Equity, helped by setting expectations, managing negotiations, working through terms of the LOI and the definitive agreement, and smoothing down the many bumps that always come up during negotiation."*

**MR CRAIG JOHNSON**

CEO OF TENSTREET  
23.11.2016.

SOURCE: CAPSTONE PARTNERS LLC

Tenstreet is the leading web-based provider of driver recruiting software and workflow solutions for the trucking and transportation industry, founded in Tulsa, OK., by Craig Johnson, Tim Crawford, Mike Hanisch, Bryan Riddle and Dale Reagan to address the hiring challenges and inefficiencies facing long haul carriers in North America.

After a decade of bootstrapped, profitable growth, the company has established itself as the clear leader in recruiting, applicant tracking, hiring, onboarding and managing drivers for any business with a fleet of 5 to over 500 trucks.

The Tenstreet founders have built a very successful SaaS business with compelling financial and customer retention metrics that investors get excited about.

The fact that they did this without outside capital is even more impressive. The investment from Spectrum Equity will help take the business to the next level and we are delighted to have played a role in helping the Tenstreet team set the company up for the next chapter of success.

**IMAP's Boston team** served as the exclusive financial adviser to Tenstreet on its growth investment from Spectrum Equity.

## Case Study - 4/5

### Verizon completes acquisition of Fleetmatics



*“With the close of this transaction, Verizon Telematics is squarely positioned as the global leader in fleet and mobile resource management, leveraging the combined strength of three world-class platforms, now serving every segment of the market. We’ll continue to work urgently to solve our customers’ most critical challenges in deploying their mobile workforces utilizing our newly combined assets, coupled with the industry’s largest distribution channel and customer support team.”*

**ANDRÉS IRLANDO**  
CEO OF VERIZON TELEMATICS  
23.11.2016.  
SOURCE: FLEETMATICS

Verizon Communications Inc. announced completion of its USD 2.4 billion acquisition of Fleetmatics Group PLC.

As a result, Fleetmatics shares will no longer be traded on the New York Stock Exchange. As a Verizon company, Fleetmatics, headquartered in Dublin, Ireland, with North American headquarters in Waltham, Mass., is now part of the Verizon Telematics business, which offers comprehensive wireless, software and hardware solutions to consumers, enterprises, automakers and dealers to power connected-vehicle products around the world.

Fleetmatics brings to Verizon more than 42,000 customers, approximately 826,000 subscribers, a broad portfolio of industry leading products, and a

team of 1,200 professionals focused on solving the critical challenges of businesses that deploy mobile workforces.

Verizon Communications Inc., headquartered in New York City, has a diverse workforce of 162,000 and generated nearly USD 132 billion in 2015 revenues. Verizon operates America’s most reliable wireless network, with 113.7 million retail connections nationwide. The company also provides communications and entertainment services over mobile broadband and the nation’s premier all-fiber network, and delivers integrated business solutions to customers worldwide.

# Case Study - 5/5

PTV Group acquired by  
Porsche SE



**PORSCHE SE**



*"PTV Group has a well-established and profitable business model in place. The Group operates at the interface of key trends we consider to be of particular relevance for the future development of the mobility landscape. We see substantial growth potential in the area of optimizing flows of people and goods."*

**MR PHILIPP VON HAGEN**

EXECUTIVE BOARD MEMBER OF PORSCHE SE  
07.06.2017.

SOURCE: PORSCHE SE

Porsche Automobil Holding SE (Porsche SE), Stuttgart, has acquired via a subsidiary around 97 percent of shares in PTV Planung Transport Verkehr AG (PTV Group), Karlsruhe, Germany. PTV Group is a leading provider of software for traffic planning and management as well as transport logistics. The aggregate investment amounts to more than 300 million euro.

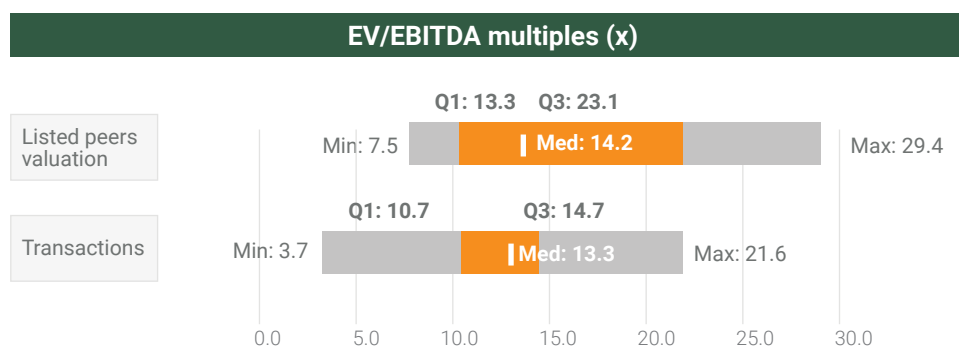
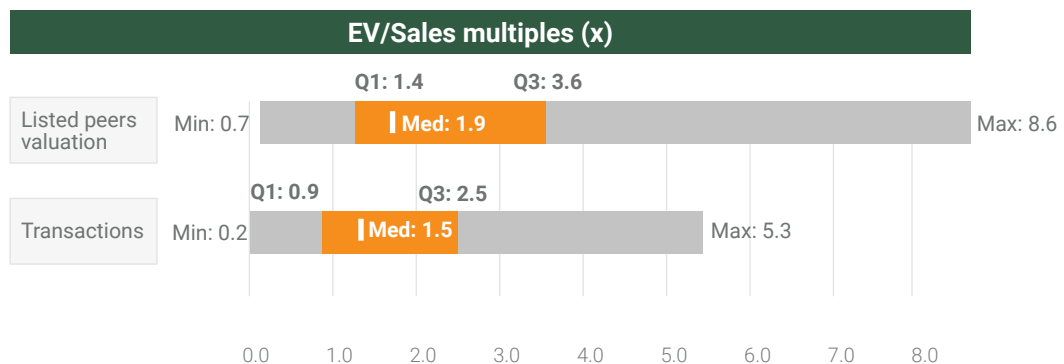
The company develops smart software solutions for transport logistics as well as traffic planning and management. PTV Group solutions are used by more than 2,500 cities. More than one million logistics vehicle trips per day are planned using PTV software.

The software solutions of PTV Group help cities and companies save time and money, enhance road safety and reduce the impact on the environment..

Porsche Automobil Holding SE is a listed holding company. It holds 52.2 percent of the ordinary shares in Volkswagen AG. In addition to this core investment, Porsche SE has a 10 percent investment in the US technology company INRIX and plans to acquire additional strategic investments along the automotive value chain.

# Telematics valuation summary

## High valuation multiples due to a positive market outlook



Source: Thomson Reuters, Zephyr

- The positive market outlook and high growth potential of the telematics market suggest higher valuation multiples.
- The valuation levels are affected by the range of value added services. The selected peer companies in the developed countries usually offer more value added services and more diverse activities.
- European and North American transactions with known valuation multiples vary widely in range, often exceeding the EV/EBITDA multiple of 10.
- Listed peers with market capitalization ranging from EUR 33 million to EUR 2,033 million.
- Selected transactions with known pre-deal multiples worldwide since 2010 with EV ranging from EUR 5 million to EUR 1,960 million.

### M&A focus

Positive market outlook and high growth potential resulting in attractive valuation multiples.

## IMAP experts' opinions on market trends



**DR. CARSTEN LEHMANN**

Managing Director - IMAP Germany

*"...our valuation experience is mostly focused on software related logistics/traffic solutions. In that field we see multiples of 12.5-15x EBITDA and above at the moment... If it is more on the hardware side lower multiples than above are to be expected."*

**STEVE HORKAY**

Managing Director - IMAP Chicago US

*"This sector in Europe should be pretty active over the next few years, particularly in Eastern Europe."*





**TOM WASLANDER**

Managing Partner - IMAP Brazil

*"Between 2007 and 2009 we subsequently acted as sell side advisor to two leading Brazilian tracking companies. Both were mostly in truck/freight tracking via satellite and GPRS. Our clients were in the businesses of selling and installing the tracking devices and providing the tracking services at a monthly fee."*

**KALMAN NAGY**

Managing Partner - IMAP Hungary

*"In our experience, growth expectations of potential sellers and buyers tend to be fairly different, resulting in a significant gap between offer and bid prices."*

**IMAP**

## Appendix 1

### Listed players worldwide

Name	Country	Description	Mkt cap (EUR m)	Sales (EUR m)	EBITDA (EUR m)	EV/Sales (X)	EV/EBITDA (X)	
<b>Diversified wireless communication technologies</b>								
ORBCOMM Inc	US	M2M products and services to track, monitor and manage a range of assets in the transportation, heavy equipment, oil and gas, maritime and government industries	714.2	171.2	37.1	4.8x	22.3x	
CalAmp Corp	US	Provider of wireless communications solutions for a range of applications to customers globally. Mobile resource management (MRM), M2M communications applications, direct-broadcast satellite (DBS) outdoor equipment	607.1	305.3	21.8	2.1x	29.4x	
Sierra Wireless Inc	CA	Second, third and fourth generation cellular embedded wireless modules and gateways. Cloud services, connectivity services and managed wireless broadband services business	805.2	556.7	46.9	1.3x	15.4x	
Telit Communications PLC	GB	Cellular, short range and positioning modules which are integrated in applications, including tracking, remote monitoring, utility meter reading, insurance telematics, etc.	421.3	324.8	40.0	1.3x	10.9x	
Trakm8 Holdings PLC	GB	Manufacture and distribution of telematics devices and services for the fleet management and insurance sectors	34.9	30.2	2.9	1.3x	13.7x	
<b>Tracking and telematics solutions</b>								
TomTom NV	NL	Supplier of navigation systems, fleet management solutions and other related products. It operates through four segments: Consumer, Automotive, Licensing and Telematics	2,032.8	982.9	143.3	2.0x	13.6x	
Descartes Systems	CA	Global provider of federated network and global logistics technology solutions	1,620.3	183.7	61.5	8.6x	25.6x	
Ituran Location and Control Ltd	IL	Stolen vehicle recovery (SVR), fleet management services and other tracking services	649.8	156.7	47.0	4.0x	13.4x	
Quartix Holdings PLC	GB	Subscription-based vehicle tracking systems, software and services	206.9	26.4	7.6	7.6x	26.4x	
MiX Telematics Ltd	ZA	Fleet and mobile asset management solutions delivered as Software-as-a-Service	168.9	100.2	19.4	1.5x	7.5x	
Init Innovation In Traffic Systems SE	DE	Provider of solutions to the public transport industry. Develops and supplies integrated planning, dispatching, telematics and ticketing systems for buses and trains	143.6	116.7	11.0	1.4x	14.6x	
Inseego Corp	US	Provider of software-as-a-service (SaaS) and solutions for the Internet of Things (IoT), fleet management, asset tracking and monitoring, stolen vehicle recovery	68.7	203.5	-26.6	0.7x	n.a.	
BSM Technologies Inc	CA	Provider of remote monitoring, fleet and asset management, fleet diagnostic, driver compliance and automatic vehicle location solutions	86.4	42.5	6.2	1.9x	13.1x	
ID Systems Inc	US	M2M solutions for managing and securing enterprise assets, including industrial vehicles	77.4	30.1	-6.5	2.4x	n.a.	
						<b>Average</b>	<b>2.9x</b>	<b>17.2x</b>
						<b>Median</b>	<b>1.9x</b>	<b>14.2x</b>

Revenues and EBITDA figures of latest 12 months available  
As of 11.07.2017  
Source: Thomson Reuters

## Appendix 2

### Transaction multiples

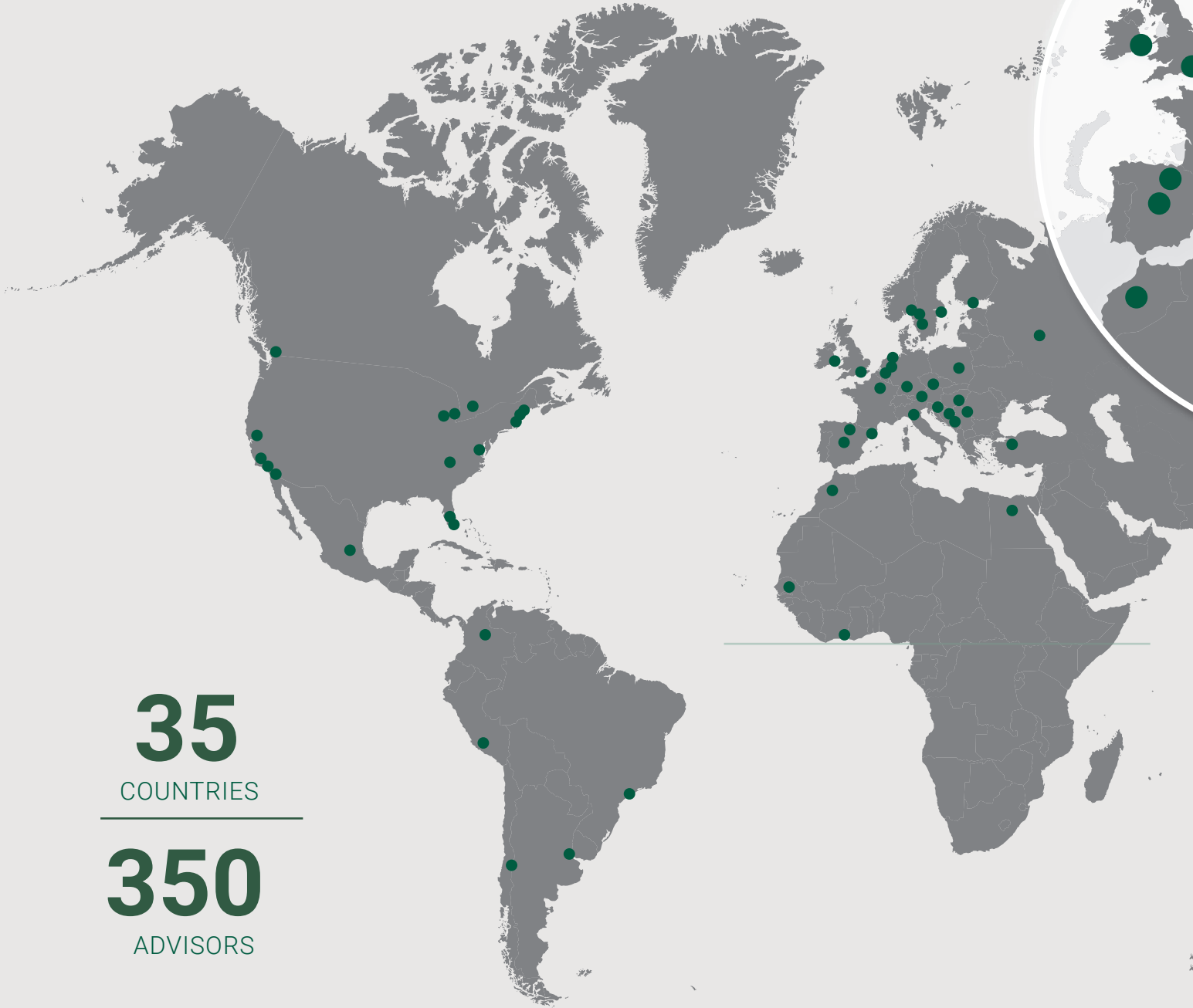
Date	Target name	Target description	Acquirer	Stake acquired (%)	EV (EUR m)	EBITDA margin (%)	EV/Sales (x)	EV/EBITDA (x)	
07.11.2016	Fleetmatics Group Plc (IT)	Online fleet tracking software-as-a-service (SaaS) provider	Verizon (US)	100%	1,959.0	33.7%	7.5x*	22.3x*	
03.06.2016	ChartCo Ltd (GB)	Electronic marine navigational software developer	Equistone Partners Europe Fund V (GB)	100%	71.0	14.3%	1.5x	10.7x	
29.04.2016	CMA Monitoring SP ZOO (PL)	Vehicles and premises monitoring with own devices	Viasat Group SPA (IT)	100%	10.8	21.1%	2.3x	11.0x	
04.04.2016	Schneider Electric SE's Transportation business (FR)	Real-time IT solutions and intelligent transportation systems	Kapsch TrafficCom AG (AT)	100%	23.0	n.a.	0.2x	n.a.	
30.12.2015	Route Monkey Holdings Ltd (GB)	Journey scheduling and routing software developer holding company	Trakm8 (GB)	100%	12.5	40.9%	5.3x	13.3x	
31.10.2014	XRS Corporation (US)	Mobile fleet management information systems developer	Amundsen Holdings Llc (US)	100%	133.8	13.8%	3.0x	21.6x	
23.09.2014	Open Roads Consulting (US)	Provider of intelligent transportation systems and critical asset protection solutions	Q-Free ASA (NO)	100%	9.2	6.7%	1.0x	14.6x	
07.08.2014	Cobra Automotive Technologies Spa (IT)	Automotive burglar alarm, sat nav and parking systems manufacturer	Vodafone Group Plc (GB)	100%	192.7	11.8%	1.3x	11.3x	
08.10.2013	Box Telematics LTD (GB)	Vehicle tracking solutions manufacturer	Trakm8 Holdings Plc (GB)	100%	4.5	12.2%	0.5x	3.7x	
24.06.2013	Telular Corporation (US)	Develops and distributes products and services that utilize wireless networks	Avista Capital Holdings (US)	100%	191.0	20.5%	3.1x	15.3x	
02.05.2013	KSD Software Norway AS (NO)	Software solutions provider for transportation, forwarding and logistics industry	The Descartes Systems Group Inc (CA)	100%	25.1	12.7%	1.8x	14.0x	
07.02.2013	Locus AS (NO)	Software and systems for the management of fleets of vehicles and mobile users	Enghouse Systems Limited (CA)	100%	10.4	n.a.	0.8x	n.a.	
31.12.2012	Transics International NV (BE)	Transportation and logistics fleet management system developer	Tavares NV (BE)	43%	63.3	12.9%	1.9x	14.7x	
26.09.2012	ABAX AS (NO)	Triplog and vehicle tracking solutions developer	Management Norvestor Equity AS (NO)	100%	58.8	18.9%	3.6x	18.9x	
16.06.2011	CarrierWeb LCC (NL)	European operations of CarrierWeb LCC that offers fleet management and mobile operations management solutions	Transics International NV (BE)	100%	6.0	n.a.	0.9x	n.a.	
30.08.2010	Punch Telematix NV (BE)	developer and marketer of transport management solutions	Trimble Navigation Limited (US)	65%	13.1	8.6%	0.8x	9.5x	
29.07.2010	Trafficmaster Ltd. (GB)	Provider of fleet tracking, navigation, traffic and journey time data, stolen vehicle tracking and other telematics services	Vector Capital Corporation (US)	100%	97.4	19.5%	1.4x	7.2x	
							<b>Average</b>	<b>2.2x</b>	<b>13.4x</b>
							<b>Median</b>	<b>1.5x</b>	<b>13.3x</b>

\* Excluded from EV/Sales and EV/EBITDA median and averages since the transactions is an outlier in terms of Enterprise Value Pre-deal figures

Source: Zephyr, Merger Market

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