
MOBILE PAYMENTS IN EUROPE: EVOLUTION AND PERSPECTIVES

Challenges and Opportunities of Direct Carrier Billing (DCB)





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A Favourable context for Mobile Payments

Mobile payments have strengthened in Europe. This consolidation happens as the penetration of these devices reaches record levels, in parallel with improvements in connectivity.

Mobility as a Premise

Mobility is the premise that regulates new consumption models. Users have gone from enjoying their favourite series and video games, exclusively in their homes, to doing it whenever and wherever they decide. This way, mobility is understood as an attitude towards consumption, regardless of whether the device is a smartphone or a watch.

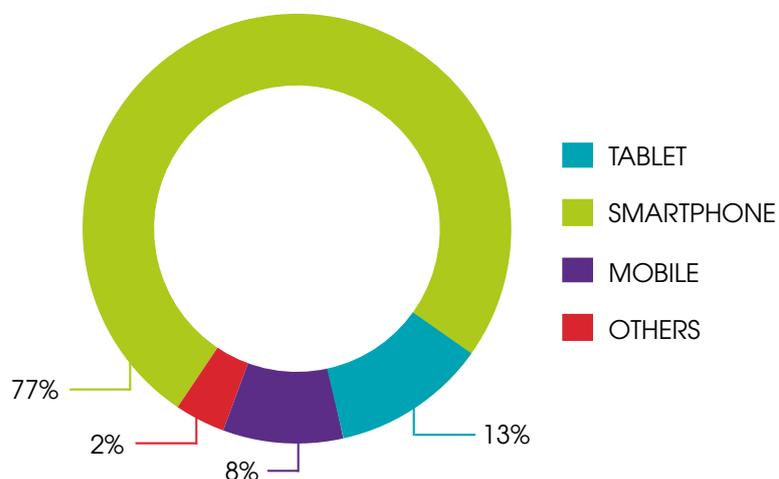
This trend has been boosted by an unstoppable penetration of mobile devices in Europe and as a result of improvements in connectivity. In 2017, the penetration of mobile devices reached 79%

and it is expected that by 2019 it will exceed 82% in Europe. In this regard, there will be more than 3,700M connected devices all over the world, aside from smartphones.

In terms of users, at the end of 2017, there were 258M smartphone users in Western Europe, and this number is expected to reach 217M in 2018.

The distribution of the global market for mobile devices at the end of 2017, portrays that the smartphone, with 77%, concentrates the bulk of Internet connections, followed by tablets (13%).

MOBILE DEVICES' DISTRIBUTION WORLDWIDE (\$1, 2017)



¹ Juniper Research, Digital Content Business Models, 2017-2022

² Europe, eMarketer, 2018, Number of smartphone users in Western Europe.

³ ITCandor, 2017, Global mobile device market share in the first half of 2017.



Connectivity: an established reality

The growth of data transactions is one of the main proofs of the strong momentum of connectivity. In this sense, mobile data traffic in Europe, in 2017, reached 1,396,079 terabytes per month and is expected to double in 2019⁴.

At the same time, connectivity has been driven by the expansion of broadband around the world. In particular, global subscriptions exceeded 3,600M at the end of 2016⁵, which means that 104 mobile subscriptions per 100 inhabitants have already been registered.

On the other hand, it's unthinkable to talk about connectivity and not mentioning the deployment of the 5G networks, planned for the coming years. In Western Europe, it's expected that by 2020 2M subscriptions will be registered to mobile 5G. Thereafter, an exponential increase is expected to reach 88M in 2023⁷. These figures illustrate the strong commitment to infrastructures by carriers in order to promote connectivity.

Concurrently, optical fiber is quickly being installed in homes. In this field, Spain is positioned as the country that leads its implementation in European homes. As a whole, the major European operators allocate an annual investment of 30 billion euros to the deployment of new generations of fiber networks and in new services.

This scenario, in which mobility is the driving force of the user's habits and in which technological devices and developments embrace connectivity, has contributed to digital consumption skyrocket. Simultaneously, the rise of digital content consumption has promoted the consolidation and growth of Direct Carrier Billing (DCB) in Europe.

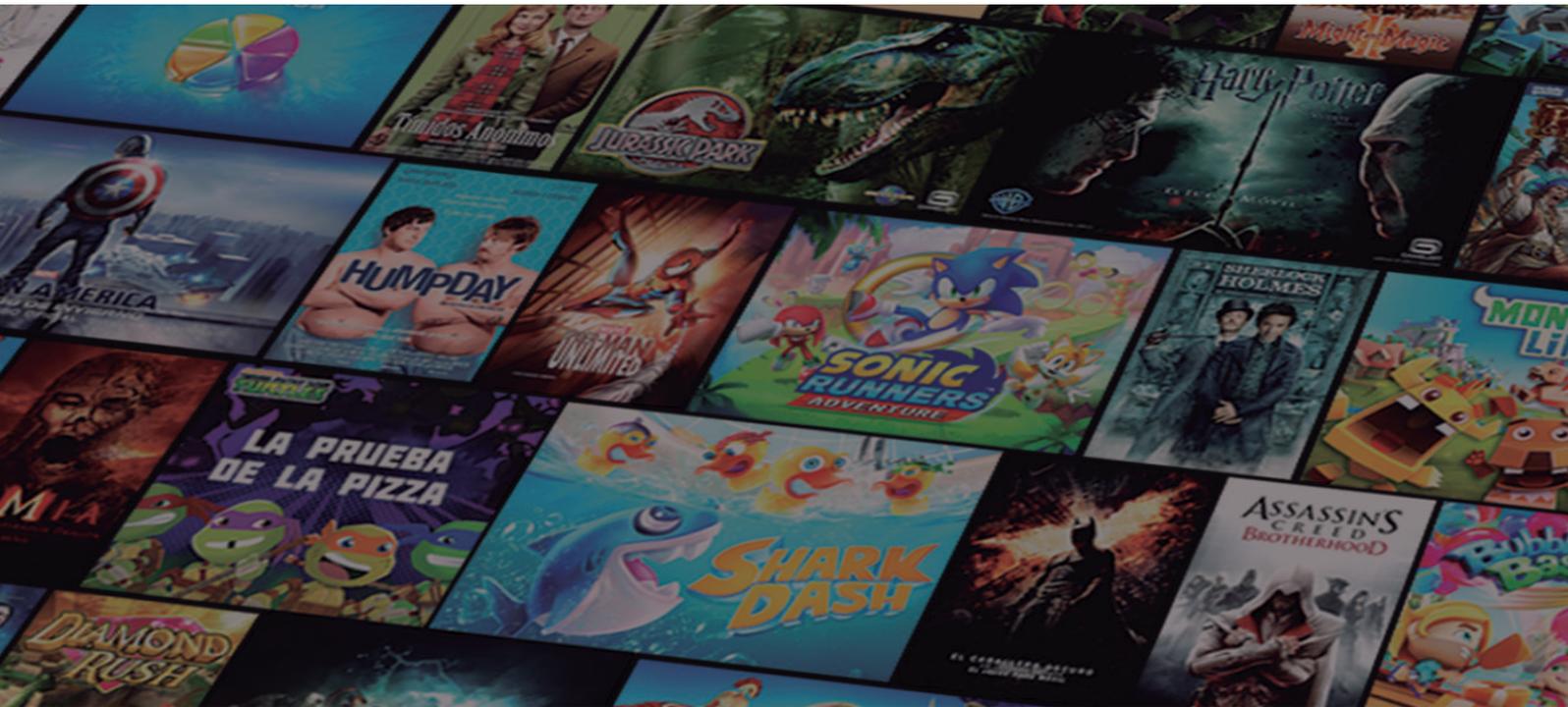
⁴ Statista, Mobile data traffic in Central and Eastern Europe 2016-2017.

⁵ Telephonic Foundation, The Information Society in Spain, 2016, p70.

⁶ ITU, Measuring the Information Society Report, 2017.

⁷ Statista, Forecast number of mobile 5G subscriptions worldwide by region from 2019 to 2023.

⁸ Telephonic Foundation, The Information Society in Spain, 2016, p70.



Digital contents, a market on the rise

Digital Content is the main driver of DCB all over the world. As content consumption grows, the volume of these transactions also does.

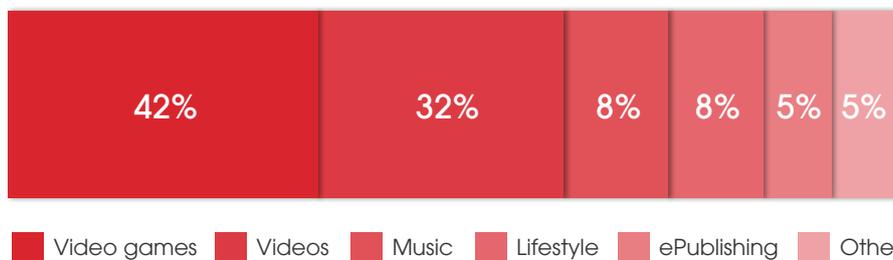
The global digital contents' market goes through its unique golden era, with TV shows, movies, video games and music platforms reaching record figures.

Specifically, at the end of 2017, the market reached 184.000\$ in revenues, all over the world. Concerning Europe, the digital contents's market,

by the end of 2017, generated almost 46.000\$ (it represents 25% of the world market)⁹.

The digital contents that lead the world ranking, in terms of income, are video games (77.000M\$), videos (59.000M\$), lifestyle contents (14.625M\$) and music (14.139M\$)¹⁰.

DIGITAL CONTENTS' GLOBAL INCOME DISTRIBUTION (2017)



In Europe, in 2017, the mobile contents market continued to grow and reached 5.700M\$. In this sense, it's expected to reach 6.600M\$ in 2018, and 7.500M\$ in 2019. These numbers highlight the great

development expected for the industry and for all agents who are directly or indirectly related to it. Hence, the number of subscribers is also growing.

⁹ Juniper Research, Digital Contents Business Models, OTT Operator Strategies, 2017-2022.

¹⁰ Juniper Research, Digital Contents Business Models, OTT Operator Strategies, 2017-2022.



DCB is the Content Industry's Ally

In recent years, numerous payment services have proliferated with great capacity to adapt to the consumption habits of a new generation of users. In this sense, the mobile phone is positioned as the most relevant device for the enjoyment of digital contents.

The design of mobile devices in recent years has been ahead of the new consumption habits among users. Greater screens's size, the improvement in image and sound quality, the reduction of keys and keyboards places value to the fact that the user allocates more time to read and to consume contents in his mobile devices.

Likewise, the devices are created, assuming that user's navigation and digital content consumption habits are 100% cross-device. This implies that, if the user starts reading a tweet concerning a given piece of information on his

tablet while having breakfast, he may continue to read the complete news piece, and even watch a related video on his smartphone while travelling to his workplace.

Despite the fact that they are purchased and consumed on the mobile, the payment is still processed through the bank card. In 2017, the card was the main digital contents' payment method worldwide, gathering 80% of all transactions.



"In 2017 DCB was the model chosen by 11% of the contents' users all over the world. This weight still has a long way to go and will set this payment system, as the favourite alternative for new generations of mobile users."

Roberto Monge

Telecomings' Chief Operations Officer.





Between 2017 and 2022 it's expected that digital contents paid by credit card will decrease by 18%, while DCB will double.

DBC: advantages for all the agents involved

The monetization of contents and services (ticketing, transport) has found its perfect ally in Direct Carrier Billing. There are numerous advantages for the different parties, both from the point of view of user experience, and from the point of view of the payment process itself.

The digital economy

Traceability

It allows improved transactions' traceability and as a consequence, it reduces fraud risk.

Developers

Digital monetization allows generating additional incomes for developers, and therefore encourages digitalization across all levels.

Piracy

It's presented as a payment method that, due to its guarantees and due to the good experience provided to the end users, favours payment for contents, while it simultaneously fights against piracy.

The consumer

Financial autonomy

It allows consumers who do not have a bank card to carry out payments. In this way, it bolsters market consumption and provides more autonomy to the users.

Comfort

When carrying out the operation directly with the network operator, it's not necessary to carry out an identification process that involves multiple steps again. Different studies indicate that a consumer does not wait more than 3 seconds to make an online transaction.

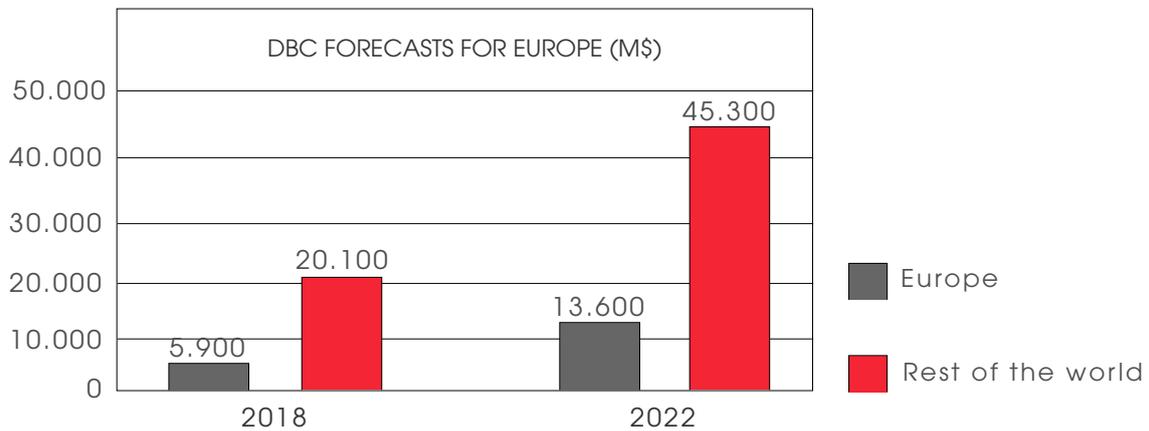
Security

DCB does not require mobile commerce consumers to enter their personal data when making payment transactions. It minimizes the repeated requirement of user data, and as a result it avoids fraud.



DBC in Europe

Carrier Billing in Europe is going through an expansion period. Over the next four years, it's expected that the volume of contents billed through DBC will increase. It's a consolidated market, but at the same time, it has a great development potential.



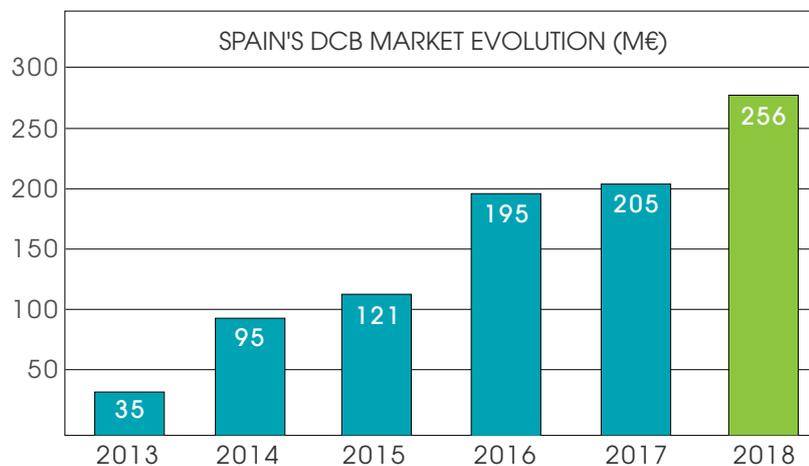
In just 4 years the volume of contents charged to the operator's bill is expected to grow and reach 13.600M\$. In this way, Europe will keep a central role in the world market, taking in to account

that by 2022 20% of the contents billed through DCB will carry on coming from the European continent.



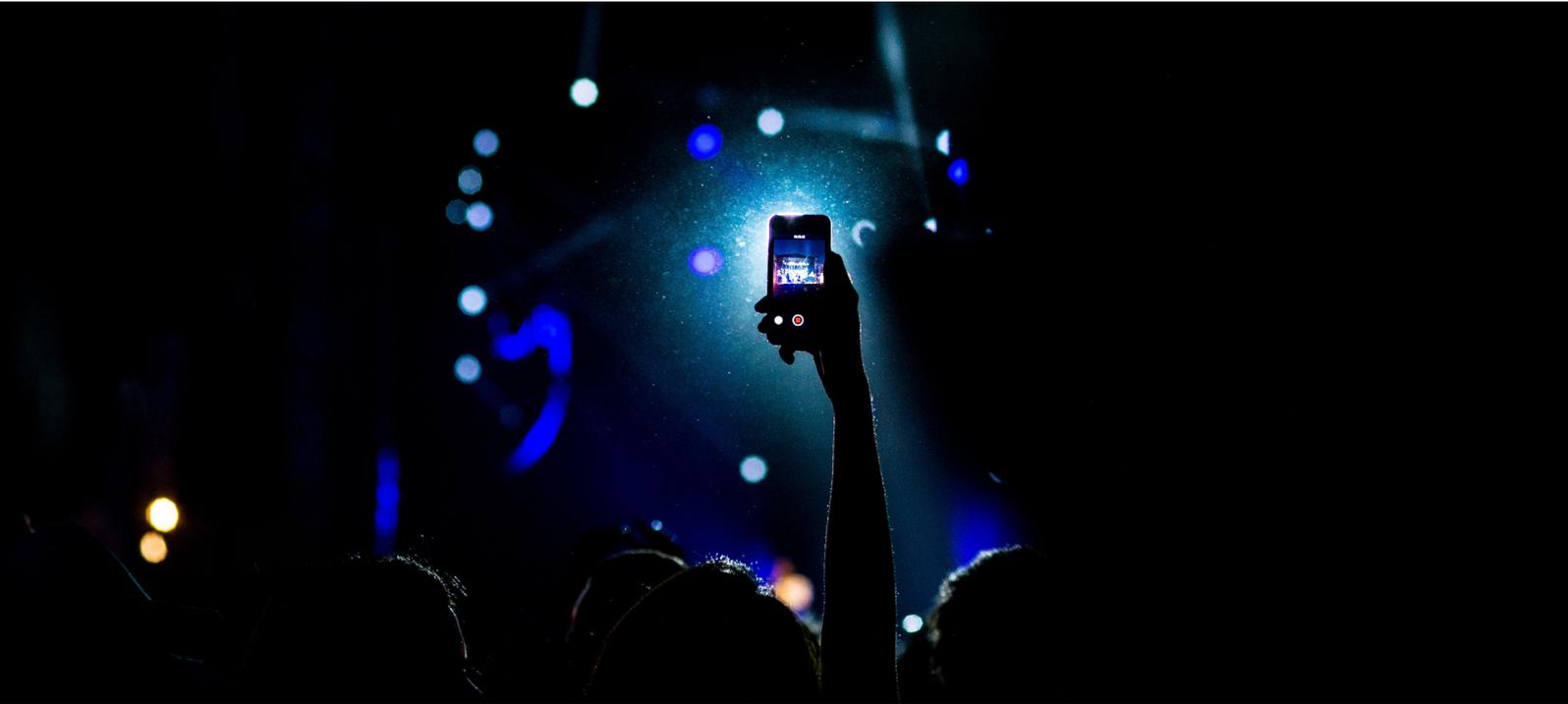
DBC in Spain

Carrier Billing in the Spanish market has experienced a gradual growth over the past 4 years.



Telecomings' Chief Operations Officer, Roberto Monge, believes that this trend will continue in the following year. The DCB specialist claims that "by 2018, the income derived from the contents' purchases invoiced via DCB will reach 265M€." However, this figure could be overcome with the upcoming additional services, expected to be billed via DCB; such as transport, ticketing and parking". He also notes that, "in any case, the recent development highlight the fact that more and more

users are choosing this means of payment due to the guarantees offered. It's a model that allows transactions' traceability and promotes payment among groups that do not have a bank card. In addition, its simplicity encourages the user to pay for content, instead of resorting to illegal downloads. In the end, they know that it's worthwhile to enjoying quality content and they are willing to pay its value, as long as the process remains simple".

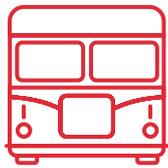


New Opportunities for DCB

2018 is the year in which the transposition of the new European Payment Services Directive (DSP2) is taking place in the different European countries.

The PSD2 allows telecommunications operators to process payments through the carrier bill for amounts under 50€ per transaction, and 300€ accumulated per month. While this mobile

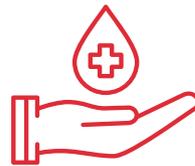
payment model today serves primarily to pay digital content, since January 2018 its scope of action is extended to the following areas:



TRANSPORTATION



PARKING



DONATION



TICKETING

Both the ticketing and transport sectors have a large market volume in Spain. In this sense, in 2017 there were 9.855.305 transport tickets' buyers in Spain (the category of Internet purchases was the one with the highest number of customers).

In 2017 the transport tickets purchase volume in Spain (including the purchase of airline tickets)

reached 6,712M€, which portrays a large market size. Regarding the online ticketing market, 116M€ was the overall expenditure made by Spanish consumers in ticket shows, last year, according to the latest edition of the ONTSI e-Commerce report.

¹² ONTSI, Study on Electronic Commerce B2C, 2017.



Final Reflections

The digital contents have found in DCB their best ally. In contrast to the credit cards, whose use for digital contents consumption will fall close to 18%, between 2018 and 2022, DCB's relevance will double.

In Spain, DCB is expected to reach 265M€ in 2018, when in 2015 the market's value was 121M€. This points out it is high growth intensity in a booming market.

Digital content lives its particular golden era, driven by the main market representatives (manufacturers, operators, users, producers...) and by payment solutions, suitable for the simple and safe processes, claimed by the mobile user.

The digital content industry is expected to bill 7.500M\$ in 2019, in Europe, and it's the main DCB driver in this content.

The new business opportunities encouraged by DCB will further strengthen the expected growth for the coming years. Its entry in ticketing, parking, transport and donations will be a turning point for a payment model in full expansion.

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