

COMPETING IN A WORLD OF DIGITAL ECOSYSTEMS

New players and blurring sector borders are starting to influence the competitive outlook in a wide range of industries. Here's a close-in look at changes afoot in automobiles and banking.

Four emerging technology clusters will define how automotive manufacturers, suppliers, and digital attackers compete and cooperate for growth. In banking, enlarged platform spaces will offer customers access to a wide range of products and services through a single gateway. In both industries, established players will need to rethink strategy, either by joining existing ecosystems or forging their own.

THE AUTOMOTIVE ECOSYSTEM SHIFTS INTO GEAR

An analysis of mobility investments reveals how technologies and players are beginning to interact, and where new opportunities are starting to appear.

by Matthias Kässer, Thibaut Müller, and Andreas Tschiesner

As digitization reshapes traditional industry boundaries, many are betting that an “automotive ecosystem” will be one of the first to develop. But what will it look like in practice, and how will we know when such a competitive shift really takes place?

As we have recently described,¹ the coming ecosystems will comprise diverse players who provide digitally accessed, multi-industry solutions based on emerging technologies. In *automotive*, four such technologies known by the acronym ACES—autonomous driving, *connected* to the Internet of Things, *electric*, and *shared* mobility—are likely to be key. A constellation of different

¹ See Venkat Atluri, Miklós Dietz, and Nicolaus Henke, “Competing in a world of sectors without borders,” *McKinsey Quarterly*, July 2017, McKinsey.com.

players, including OEMs and their suppliers, competing “frenemies,” and unexpected attackers, will aim to capture the opportunities these and other innovations will present.

Thanks to the findings of the Start-up and Investment Landscape Analysis (SILA), McKinsey’s proprietary, self-optimizing big data engine, we can now paint a more detailed picture of the evolving battleground. Through SILA’s semantic analysis of keywords and network analytics of relevant companies, clusters, and industry moves within the investment landscape, we identified ten technology clusters with more than a thousand companies combined that have received external investments since 2010 of about \$111 billion. This figure does not include internal R&D expenses by automotive and technology companies, but it does include acquisitions and stakes in other businesses made by these companies.

In the past decade, the rate of mobility investments has increased nearly sixfold, and the median deal size has more than tripled. In 2016 alone, investments amounted to \$31 billion, a little less than half of the total R&D spend by all automotive OEMs (\$77 billion). Around 60 percent of the total investment volume went into very large, industry-shaping deals, whereas the rest went into a huge number of smaller deals. Notably, these investments were focused not on products but on the technologies underlying the changes in mobility. In other words, investors are betting on an ecosystem.

No less compelling is the evidence as to who the investors are. More than 90 percent of the investments identified by SILA have been made by tech companies, on the one hand, and venture-capital (VC) and private-equity (PE) firms, on the other. These two sectors are investing about equal amounts (that is, slightly more than 45 percent of the total investments); OEMs and major suppliers make up the remainder. And while VC and PE firms are making these investments because they expect significant growth and will likely look to exit in the foreseeable future, tech companies seem intent on staying put—staking out emerging control points and getting ahead of critical trends.

Our SILA analysis shows ten major clusters based on the four ACES technologies (exhibit). Among these technologies, autonomous driving received the largest amount of funding. Sharing solutions came in second, with around one-third of the funding—surprisingly little, given the media attention. In both areas, the investments were dominated by a few large investments in major companies (for example, Didi, Mobileye, and Uber); autonomous driving also had a long tail of smaller investments in technology start-ups.

Exhibit

Mapping mobility start-ups and investments in the evolving automotive ecosystem shows activities across ten clusters.

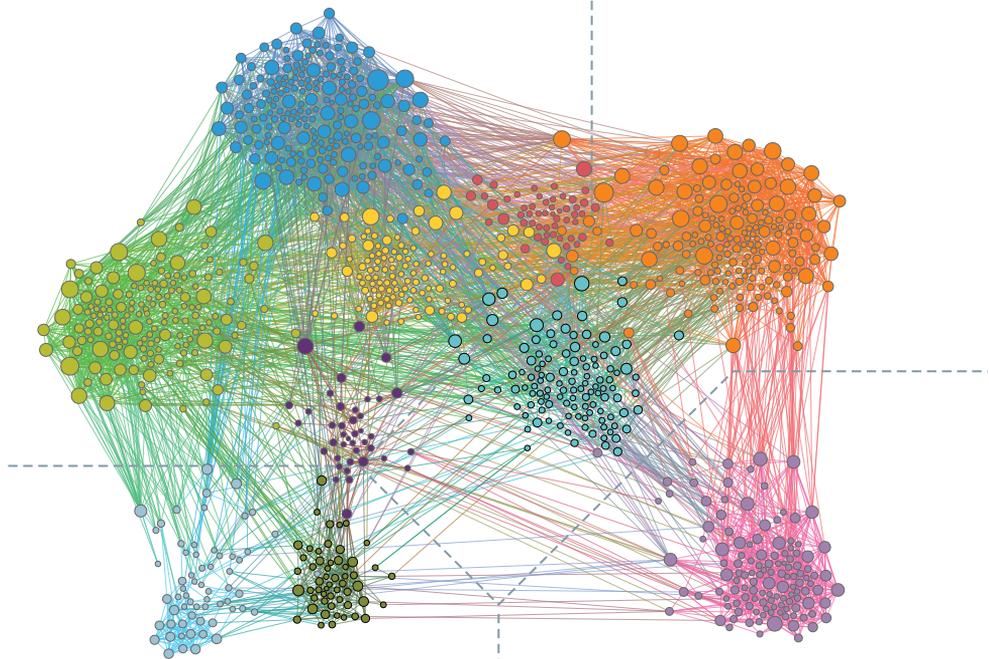
10 clusters loosely categorized into 4 areas, includes >1,000 companies with investments of ~\$111 billion, 2010–17

Connectivity

- Telematics
- Back end and cybersecurity
- User-interface technologies
- Parking and mobility optimization
- Gesture/voice recognition

Autonomous driving

- Sensors/semiconductors
- Autonomous solutions



Smart mobility

- Vehicle leasing/fleet management
- Sharing solutions

Electrification

- Electrification/energy storage

Source: Capital IQ; PitchBook Data; McKinsey Center for Future Mobility

The picture is very different in the connectivity cluster, where investments have focused almost entirely on specialized small and midsize companies. Electrification and energy-storage investments are smaller than investments in other technologies, most likely because automotive companies are investing in these technologies in-house.

The analysis also reveals strong links between the different ACES clusters (as shown by their proximity on the node map), which emphasizes the underlying technologies' wide-ranging applicability. For example, machine learning is the underlying technology for both autonomous driving and voice-recognition software, among others. This suggests that companies should consider opportunities in light of the technology to be used rather than the offerings to be developed.

Not surprisingly, more than half of the start-ups currently receiving investment are based in the United States, which leads both in the number of companies and in investment volumes. China follows and Europe lags well behind. But as the SILA data show, a mobility ecosystem is quickly taking shape across the world. And this ecosystem is more than just “Automotive Industry 2.0.” Leading in the new landscape will require contending with multiple new players—many not from a traditional automotive background—and integrating different capabilities. For traditional OEMs and suppliers, as well as new entrants, it will be essential to adopt an ecosystem mind-set. 

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BANKING NEEDS AN ECOSYSTEM PLAY

To regain ground lost to challengers, the industry must digitize core operations and adapt to an era of markets without borders.

by Miklós Dietz, Joydeep Sengupta, and Nicole Zhou

Digital competition threatens to upend business models across sectors. So what's happening in banking—with attackers targeting some of the most profitable income streams, so-called platform companies entering the fray, and many incumbent players struggling to respond—is a stark reminder for all senior executives of what's at stake.

Fast-moving fintechs, many of them start-ups, launched the first salvo in banking using smartphone apps, cloud-based infrastructure, and intuitive interactions to lure banks' customers. Fintechs forced banks to innovate their digital offerings and even their business models. While this first wave of intrusion has mostly abated, platform companies such as China's Tencent, Japanese retailer Rakuten, and Amazon in the United States are now using their customer knowledge, scale advantage, and data capabilities to target a range of retail, corporate, and commercial segments. Such companies use information from their huge base of customers to build ecosystems—networks that span industries and functional capabilities and enable them to attract customers from adjacent and previously stand-alone industries at high speed and low cost. In banking, for instance, using data analytics and other capabilities, digital players can make credit decisions nearly instantly.

THE HIT TO PERFORMANCE

Using proprietary data across banking segments and geographies, we looked at the extent to which current and future digital competition may potentially damage returns and the degree to which technology choices are important. We found that attackers—whether fintechs or platform players—favor incumbent banks' choicest businesses, namely fee-based offerings such as transactions and payments as well as asset management. At the moment, these produce 47 percent of banking revenues but an outsized 65 percent of profits and a return on equity (ROE) of 20 percent. There is relatively less interest in banks' "manufacturing" areas, the core finance and lending businesses that pivot off balance sheets. These represent 53 percent of revenues and 35 percent of profits and have an ROE of 4.4 percent.

Absent any mitigating actions, we estimate that the ongoing digitization of the industry could cost banks more than four percentage points of ROE by 2025 (exhibit)—an unsustainable loss that will drop returns well below even the cheapest cost of capital. Banks could win back some of that erosion by better deploying core technologies now being used against them—"industrializing" operations with digital automation or using new digital-marketing tools and analytics more effectively—but on its own, this will not be enough to recover the lost ground.

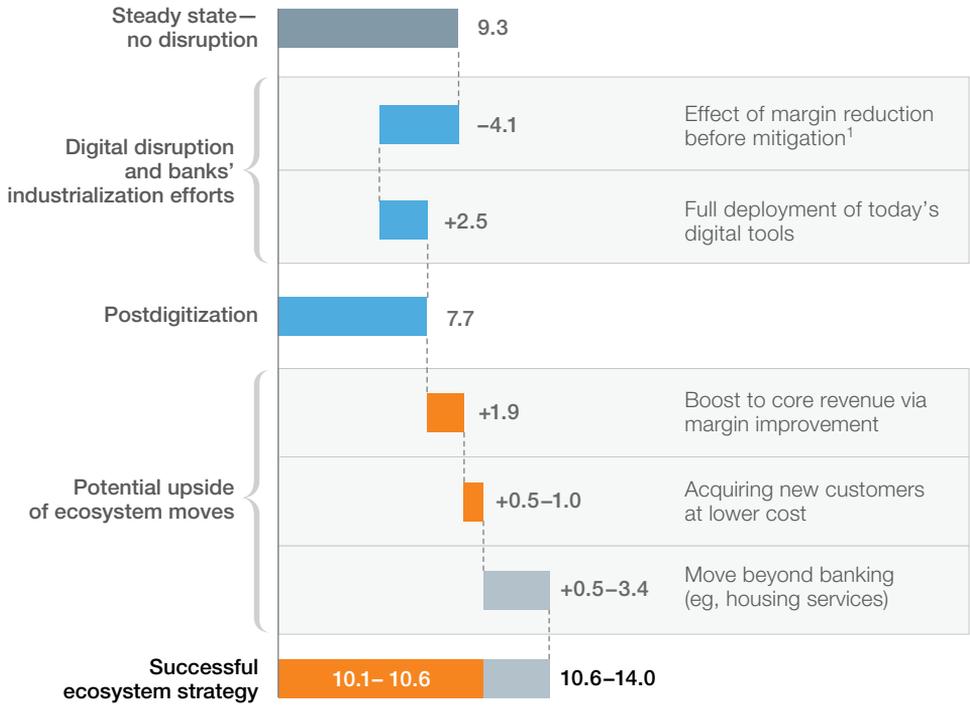
ECOSYSTEM PLAY

Our research shows that, for the past several years, banking returns have been stuck between 8 and 10 percent. The best option for many banks to lift returns to something like the go-go years of the early 2000s—to say nothing of the tremendous margins that digital firms now command—will be to embrace the ecosystem environment. They must use their inherent advantages, including customer trust, regulatory knowledge, a big customer base, and unexploited data. Many banks could scan their markets and regions and then

Exhibit

Banks that execute a **successful ecosystem strategy** could restore their return on equity to double digits.

Projected 2025 return on equity for average bank, %



¹ Average results across sectors and geographies, generally more severe in consumer finance, payments, and asset/wealth management sectors (up to -20% or more in United Kingdom and Japan).

Source: S&P Global Market Intelligence; Global Banking Pools and Panorama by McKinsey

join these new business systems—and banks with strong digital capabilities might even build an ecosystem, enlisting other financial and nonfinancial players to join them.

In a basic ecosystem “play,” platform power helps banks retain their core customers and improves cross-selling. Banks will be much more conspicuous to digitally minded customers and will be able to offer products better suited to customer needs—even as better data help banks make sharper underwriting decisions. In our estimate, these improvements can add close to two percentage points to ROE. Further ROE increases are possible as networks of ecosystem partners and access to more data lower costs of customer acquisition, in some cases to as little as 1 percent of historical costs.

For some banks with the necessary digital “chops” and insights into potential opportunities, a deeper ecosystem strategy can be even more decisive. Many banks are already surveying related revenue pools, ranging from housing and

transportation to participation in B2B and B2C marketplaces. A medium-size bank, for example, in partnership with regional real-estate developers and agents, might capture 15 percent of ecosystem revenues in home sales, financing, and aftermarket services such as moving, decorating, insurance, and so on. Even this small slice could be enough to lift returns into the midteens again.

Over time, digitization will sharply reduce banking revenue pools. The “vertical” business system may be in its final lap, but by shifting today’s organizations to ecosystems, banks can claim their share of the expanded revenue pools in markets that transcend industry boundaries. 

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For the full report from which this article is adapted, see “Remaking the bank for an ecosystem world,” on [McKinsey.com](https://www.mckinsey.com).