A Work Project, presented as part of the requirements for the Award of a Master Degree in Management from the NOVA – School of Business and Economics.

CONTINENTAL'S VENTURE INTO CORPORATE VENTURE CAPITAL

HOW STARTUP INVESTMENTS MAY HELP A LARGE AUTOMOTIVE INCUMBENT TO DEAL WITH DISRUPTIVE TRANSFORMATIONS IN THE AUTO SPACE

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January 3rd , 2019

Abstract

After years of stable growth, Continental AG (Conti), one of the world's largest automotive tier one suppliers, has released its second profit warning in 2018 and shareholders lost over $20 bn within only ten months. Conti finds itself confronted with significant underperformance in key markets, staggering growth in its core business and increasing competition from new (tech) players aggressively pushing into the auto space. And Conti's situation is not unique: The automotive industry is on the edge of disruption, as the vehicle's value proposition shifts away from individual car ownership to consumption of on-demand and shared mobility services strongly impacting traditional sales growth. The vehicle slowly turns into a commodity platform for services, making software the new differentiating factor while commoditizing tier ones' traditional core businesses around hardware. To manage these challenges and preserve its leading role in the mobility sector, in 2018, Conti has released its so-called Future Mobility strategy, announcing the greatest restructuring in corporate history as well as a large open innovation campaign. One of the key elements is the foundation of a dedicated corporate venture capital unit (CVC) with the aim to effectively tap into innovation and capitalize on new opportunities faster. Starting off with a small CVC team, the company is now faced with the critical question of choosing the adequate organizational setup of the CVC practice. Considering the company's current financial situation, complex and fragmented organizational structure, competitive landscape and future aspirations, deciding on its setup represents a very delicate task. The unit's organizational setup and operating model must be chosen carefully in accordance with the company's overarching strategic ambitions and potential areas of internal conflict.

Keywords: digital transformation in automotive; disruptive technologies and business models; open innovation; corporate venture capital

Continental's Venture into Corporate Venture Capital

About the case: The case study at hand provides a snap shot of Continental's delicate situation in mid-2018 and examines the incumbent's central innovation activities against the background of the aggressive digitalization trend, which currently challenges the traditional auto industry. The case builds on industry-wide research and paints a multi-faceted picture by drawing on multiple perspectives ranging from automotive incumbents, new entrants and startups, to academia, investment and consulting firms. Primary data was collected through extensive semi-structured interviews and in-depth conversations with ten experts from relevant industry players. These include Continental, BMW, the Boston Consulting Group and Goldman Sachs, as well as (corporate) venture capitalists from Germany and organizational restructuring consultants.

Case Study

1. Introduction

"This should not have happened! The situation has got way out of hand. This is unacceptable! We will not continue on this wrong track any further. The train stops here and now!"[1]

Its August 20th, 2018, and Elmar Degenhart, CEO of Continental AG (Conti), sits over lunch with international investors in London. What should have been a sales pitch for Conti shares resembles an angry confession. Eight days earlier, Conti, the world's second largest automotive tier one supplier, has issued a profit warning, its second one in 2018. Within a couple of hours after announcing large forecast readjustments, Conti's share price dropped by 15%. From January to October 2018, the share price fell from an all-time high of €250 to €137. Conti's shareholders lost around €20 bn[1].

Conti used to be investors' darling, regularly delivering record highs, and growing its share price fourteen times. Now, Conti has lost its status, finds itself tumbling and the normally calm

and considerate CEO reacts in panic. Four days after London, Degenhart and his management send a furious letter to the 400 senior executives at Conti calling for action. “The situation is very serious”, stakeholders are questioning Conti’s “capabilities for delivering good operative performance, to conduct reliable forecasting and our cost awareness”[1].

Yet at the same time, Conti’s situation is anything but unique as many (German) auto players are experiencing turbulences and were forced to issue profit warnings in 2018[2-5]. A closer look suggests that the actual challenge of the automotive tier one reaches far beyond current matters of overambitious management, bad forecasting and the regulatory crackdown on diesel engines.

The automotive industry is on the edge of disruption[6]. The current paradigm-shift from car ownership and driving experience to consuming autonomous driving services is changing the value perception and shaking up the entire industry. Software giants are entering the industry and traditional suppliers are suffering drastically from increased competition at multiple fronts. The global share index MSCI World Automobiles dropped by one fourth since January[7]. The legacy automotive business model appears far too outdated in the new, digital world.

Like many other suppliers, Conti is faced with an unprecedented level of competition, complexity and uncertainty. With significant parts of its current business under attack and stagnating production volumes, management is urged to find new ways of securing the company’s future and identify areas of growth. *How can the corporate strategy be designed so that it caters to both Conti’s current business and future development? How can a traditionalist like Conti move away from its passive, volume-driven business model and get ahead of digital transformation by reshaping its organisational structure? How can a siloed organisation effectively foster innovation and keep up with the fast-paced and novel competition?*

2. Industry overview: The future of automotive suppliers – a challenging road ahead

2.1 The global automotive tier one supplier industry

The world's largest tier one automotive suppliers are Bosch, Conti, Denso, Magna and Aisin Seiki (Appendix 1). Tier one automotive suppliers are companies that manufacture automotive component parts or systems which are either sold as automotive-grade systems directly to OEMs or as 'off-the-shelf' aftermarket products to wholesalers and retailers[8] (Appendix 2). Direct B2C or E-commerce sales channels only rarely exist and so far, do not represent a major sales channel for traditional suppliers[9]. The tier one product portfolio covers a wide spectrum that contains tyres and various components within chassis (sensors, actuators, brakes, driver assistance systems), powertrain (engine systems) and interior electronics (cabling, in-cabin sensors, cockpit electronics). Their traditionally passive business model is largely determined by the OEM as a customer and has historically been driven by scale, process specialisation and cost control[6]. In Germany, about four-fifth of the national automotive industry's value creation can be directly attributed to tier ones[10]. However, while contributing a significant part of the value creation in automotive, tier ones are not able to actively drive end consumer demand like OEMs and strongly depend on their sales performance[6].

This sales performance reached a major tipping point in 2017: While global light vehicle production had achieved another record high amounting to €95.9 M, growth was stagnating, primarily due to declining production and sales volumes in mature markets such as US and Europe[6] (Appendix 3). The diesel scandal, regulatory pressure and driving bans for combustion engines, investigations around OEM's cartel agreements, car scrappage schemes, trade conflicts, and increasing protectionism in key markets are causing massive turbulences in the automotive space[1]. Increasing margin, cost and consolidation pressure stresses automotive players' balance sheets to the extent that existing production capacities of both OEMs and tier ones were rendered obsolete[1]. The global automotive MSCI index fell by one fourth[7] and several OEMs and tier ones have issued major profit warnings[2-5]. While OEMs are to take the first blow, automotive tier ones appear to suffer even harder given their historically passive

business model and secondary place in the automotive value chain[6]. According to automotive experts, the traditional tactic of compensating cost increases with volume growth will no longer suffice to sustain suppliers' profitability[6].

2.2 An industry in transformation

The automotive industry is undergoing a major transformation and paradigm shift that is shaking up the industry fundamentals. The vehicle transitions from a technical to a social commodity with the focus on usage rather than ownership, from individual driving experience to consuming on-demand mobility solutions and services[6]. These so-called "ACES" characteristics (autonomous, connected, electric, shared) are expected to define the future mobility market[6]. Autonomous driving is to amount for 40% of mileage in Europe in 2030, increasing overall mileage in Europe by 23%, in US by 23% and in China by 183%[12]. Penetration rate for autonomous vehicles of the SAE level 4/5 are predicted to range between 5% and 26% in the next 15-20 years[6]. Connectivity-enabled business models are reaching unlimited opportunities for mainstream application[11]. Electrification is experiencing a momentum due to technology advancements, governmental pressures and rising oil prices, leading to a predicted share of EV cars of 20-32% in Europe and 29-47% in China by 2025[6]. EVs are expected to replace the classic internal combustion engines (ICE), thus eliminating a large part of automotive players' business and competitive advantages[6]. Lastly, sharing concepts are growing at a fast pace[12], particularly in dense urban areas, slowly starting to disrupt automotive business as we know it. One out of ten cars sold in 2030 will be shared[11].

There appears to be a striking similarity between the car of the future and the smartphone[8], which disrupted the traditional mobile phone segments with its powerful platform dynamics. As the car slowly turns into a platform for digital services as well, this may have far-reaching consequences for the automotive value creation and its value chain. Future growth drivers will be, amongst others, digital service innovation, mobile app penetration and amount of content

per vehicle, all of which lie in direct contrast to the traditional tier one business model driven by processes, hardware and scale[8]. The connected, electric vehicle requires only a fifth of the components found in a usual car and is much easier to assemble from a hardware perspective, making software the differentiating factor[6]. Hardware will become commoditised and software and hardware decoupled[6], as already observable in the infotainment sector[13]. Mobility software and services will introduce high margin products to a previously low-margin business. Already today digital components (electronics, sensors, software and actuators) are the primary drivers of growth and account for over two-thirds of the value from incoming orders[6].

In addition, Conti expects increased competition, particularly from specialised new entrants, on multiple fronts[6] (Appendix 4). The convergence of auto and consumer electronics verticals is expected to add to the existing competitive pressure on the suppliers' own supply side. Automakers increasingly seek components that were once primarily sourced by consumer electronics producers, e.g. batteries, microprocessors and the rare earth materials that are used to produce them[14]. Lastly, major competitive pressure is expected to arise from the leading software giants. Attracted by the opportunity to enter a previously hardware-based market with value-creating software services and data, global software giants like Google are using their deep software expertise and ubiquitous cash funds to aggressively push into the automotive vertical with their own solutions[15] (Appendix 5). Google recently launched its self-driving service pilot, Waymo, in Phoenix Arizona. To date, none of the traditional OEMs have launched a comparable service[16]. Another example represents Chinese tech giant Baidu, who set up an own investment fund for autonomous driving startups worth $1.5 bn[17], a large number compared to the German government providing €3 bn in total to support artificial intelligence[18]. Further, Baidu successfully established an open source autonomous driving platform, Apollo, with which it wants to become the 'Android of Automotive'[17] (Appendix 6). A similar approach was recently taken by ride-sharing unicorn Lyft[19].

Despite all warning signs, 80% of traditional automotive players claim they are not yet well prepared for this industry transformation due to their lack of strategic focus, software capabilities and digital resources[9]. Counterintuitively, in times of increased innovation needs, automotive players have even decreased their R&D spending by 4% between 2015 and 2016[12], thus entering into a dangerous downward spiral. Traditional automotive players are finding themselves in an existential crisis.

3. Continental AG

Conti is the world's second largest automotive tier one supplier founded in Hanover, Germany, in 1871. Conti is composed of the divisions of rubber (tires and ContiTech) and automotive (including chassis & safety, powertrain, and interior) (Appendix 6), accounting for 39.7% and 60.3% of sales respectively. Conti employs over 235.000 employees. For ten years, Conti's has been experiencing continuous positive growth and has been able to increase sales in 2017 by 8 percent to €44 bn[20]. By mid-2018, the firm achieved a market cap of over $53 bn[1].

Even though Conti is now ranked on place 206 of the world's largest corporations[21], the MNC went through a tumultuous past. After an acquisition of Siemen's VDO automotive unit for €11.4 bn in 2007, Conti seemed to have overextended itself with debt, subsequently losing half of its market cap only a year after and being kicked out of the German DAX index[1]. In 2008, the financial crisis struck and Conti became the target of a protracted standoff by vehicle part manufacturer Schaeffler AG, member of the DAX 30 firms. Even though Conti lost the battle for power, Schaeffler failed to fully acquire Conti and is now its largest stakeholder owning 46% of Conti's shares[22]. Thanks to lowered European interest rates, strong German state economic stimulus program around car scrappage schemes and short-time employment, from March 2009 onwards, Conti's share prices were rising again, Conti re-entered the DAX, and, following further market deregulation, share prices reached a then record-high in early 2015[1].

Now, in 2018, Conti is faced with yet another existential crisis. In early and mid-2018, Conti was forced to give out two subsequent profit warnings, the latter resulting in the largest share price drop since the financial crisis[1]. Business sales were below expectation and projected to be €46 bn instead of €47 bn, margin forecast was adjusted to 9% instead of the projected 10%, and the Powertrain business around ICE is struggling to hold ground[23]. Even though the financials can be partially explained by an inventory readjustment and goodwill due to the diesel scandal amounting to €8 bn[23], they fit to the broader picture and transformative developments of the auto supplier industry. According to Degenhart, "some units have lost their public trust, management became too comfortable and rested on the laurels of the firm's recent successes"[1]. Analysts share doubts about Conti's ability to ever get back on track[1].

3.1 Continental's shifting gears – Future Mobility Strategy

In the face of the delicate situation in 2018, Conti's management announced drastic measures. "We need to cut costs – all topics are on the table. Strict corporate-wide savings program, streamlining the supply chain and production processes, reviewing our cost structures - even staff cuts and closure of production sites", says Conti's CFO Wolfgang Schäfer[1]. Conti lays off some of its senior executives, hires a new CTO, and calls for "the greatest restructuring in the corporate history"[1]. Conti enters a new holding structure: The well-performing Automotive division stays at the center of the organisation. Chassis & Safety and Interior are becoming the New Conti, thus further gearing the company towards digitisation and future mobility technologies. Moreover, Conti carves out its Powertrain division via an IPO, which, despite 42.600 employees and €8 bn in sales, has become Conti's weakest performing business unit[23].

However, it seems that the majority of Conti's countermeasures are rather short-sighted. As latest industry trends show[6], it does not seem to get any easier and Conti needs to find new areas of growth to ensure the firm's long-term competitiveness. Therefore, management recently released their so-called 'Future Mobility Strategy'[23] with plans around corporate restructuring

and an innovation offensive to capitalize on new technology trends in the ACES segment. In the long term, Conti wants to adjust its business model and move away from the automotive hardware commodity business to become a leader in the field of integrated, future mobility services and software. Conti expects new business opportunities in the field of automotive and mobility services to grow by 30% p.a. to over €200 bn in revenue until 2025, accounting for 15% of the overall automotive supplier market revenue, whilst business related to traditional fields is forecasted to grow by only 1% p.a. in the same time frame[20,23]. Therefore, by 2025, management wants ACES to make up 20% of their new business deals whilst 70% of Conti's total portfolio is to be made up of electronics, sensors and software products[23] (Appendix 7).

The second pillar of Conti's new strategy is a major push for innovation and new product development. Even though Conti already offers strong products, they lack the proximity to novel areas[1,23], in which other industry peers and emerging tech players have already invested heavily for many years[1]. Further, and partly owed to a history of acquisitions, Conti's organizational structure is complex and fragmented, composed of powerful silos, and has a business model and culture driven by process specialization[1]. This may reduce corporate agility, limit intrapreneurship and prevent the corporation from tackling its innovation challenges effectively. Conti has a long road ahead if it truly wants to deliver on its latest announcements.

4. Innovation & venturing at Continental

Even though Conti has continuously increased its R&D expenditures in the last few years, achieving an above-industry average of 7.1% of sales (€3.1 bn) in 2017, Conti has decided to increase its R&D budget even further to 10%[23]. Whilst currently most expenses are related to Automotive, specifically Interior (Appendix 8), Conti plans on investing more heavily in ACES, electronics, sensors and actuators[23]. Further, Conti appointed a new Automotive CTO, Dirk Abendroth, and gave the position more relevance through a seat in Conti's executive

board[24]. Abendroth is supposed to streamline and consolidate Conti's previously decentralised R&D efforts of the several BUs and install a central R&D unit focused on autonomous driving technologies to accelerate targeted innovation.

Moreover, as internal R&D appears insufficient to effectively fight the innovation race, Degenhart has decided to push forward open innovation (OI) through increased external venturing efforts[1,23]. Hence, Conti has launched the startup program called "Co-Pace" to drive operational partnerships between startups and corporate departments as well as providing a launching pad for employee's ideas via internal incubators[25]. To round off its startup initiative, Conti has decided to establish a dedicated corporate venture capital (CVC) unit in mid-2018[25]. The CVC unit provides external mobility startups with risk capital through minority equity investments and helps them to scale by providing access to Conti's corporate resources and technical expertise in large-scale production. On the one hand, an operational partnership and/ or investment from Conti may significantly benefit a startup's reputation and operational development. Conti, on the other hand, is able to tap into external innovation and explore new business opportunities before eventually committing significant internal resources at a later point in time[25,26]. "As the scope and complexity of technical systems in a driverless system are so considerable and can only be handled by a technology company with a very broad product portfolio and holistic approach, partnering helps us to incorporate current developments into our R&D work and accelerate autonomous driving", rationalises Ralph Lauxmann, head of Systems & Technology and head of the Automated Driving Project at Conti[27]. Conti had already experimented with some OI activities: For example, in 2017, Conti opened a R&D centre in Silicon Valley to leverage the local ecosystem and gain access to local startups[20]. Further, Conti entered a strategic partnership with Chinese internet giant Baidu's Apollo platform to leverage their technology expertise and push forward the future mobility ecosystem[28]. Additionally,

Conti has already invested in a couple of promising startups, such as EasyMile[27] and DigiLens[29] (Appendix 9) that enjoy the reputation of belonging to the best in their field.

5. Corporate venture capital - starting from scratch

5.1 Corporate venture capital in Automotive

Despite the few promising strategic ventures, the startup investments Conti made prior to the foundation of its new CVC unit mid-2018 appear to be more of a side product compared to the corporate's sizeable M&A activities[30]. While Conti's CVC activity to date appears to be rather limited, the automotive industry paints a different picture: Despite its doubtful history, being historically prone to boom and bust cycles[31] (Appendix 10), CVC investing has experienced a massive rise in recent years[32], particularly in the automotive sector[33]: Auto tech global funding volumes are exploding (Appendix 11), an increasing share of investments (47% in 2018) is done by corporate investors, and particularly funding activity related to autonomous driving is driving the surge of investments[34] (Appendix 12). Suppliers have followed the example of OEMs and mobilized capital amounting to $536 M to access new venture technologies and business models[32].

Bosch and Magna serve as best practice examples for successful CVC units amongst tier ones (Appendix 13). Robert Bosch Venture Capital (RBVC) is the largest automotive CVC investor and belongs to the 25 most active CVCs worldwide, alongside Google, Intel and Salesforce. RBVC operates a fund volume of over €450 M, a 40-head team, offices around the globe and a portfolio of 35 technology startups[35]. RBVC acts as a strategic long-term investor in areas that complement Bosch's existing core business, having invested in for example the British semiconductor company Graphcore, the German startup IOTA for electric vehicle payment infrastructure or system developer GreenPeak[36]. Another well-established and active CVC player is the Canadian automotive tier one Magna International. In early 2018, Magna invested

$65 M in the leading Lidar company Innoviz[37] and was the sole investor in a $200 M round in the car sharing company and Uber-rival Lyft[38]. Next to strategic rewards, Magna's investments seem to be very profitable: After co-investing in a $26 M round of the Israeli cybersecurity firm Argus in 2015, only two years later, the same company was purchased by Conti for $400 M[39].

5.2 Continental's CVC pilot

Conti's CVC practice kicks off with a small team of experienced investors with background in both private VC and CVC. They draw upon the financial, legal and technical expertise of the corporate functions and business units to conduct sophisticated due diligence and closely work together with the technology experts from Co-Pace, who are extremely well connected in the world's key startup ecosystems, such as the US, Israel and Germany[25,26,40].

"We want to use our startup program to unlock the great potential for innovation within Continental. It will allow us to act quickly and flexibly", says Dr. Ariane Reinhart, Conti's Executive Board member for Human Relations[25]. She is one of the greatest supporters of CVC, but not everyone may share the same confidence and enthusiasm. In times of financial difficulties, budget cuts and job uncertainty, it is difficult to convince all management levels of the benefits CVC can add to the table, giving rise to potential areas of internal conflicts of interests[41]. Such conflicts may arise from managers being more inclined to support startups that build upon their existing assets rather than those than threaten them; competition around the same scarce resources, i.e. corporate funds; adverse selection due to the timely discrepancy between costs and benefits of investments or the lack of understanding of the full nature of CVC investments, particularly the odds of success[31,41-44]. BUs may feel threatened by new economy practices and want to protect their turf[44]. In addition, due to the long-term, risky, and hard-to-measure nature of CVC investments, a continued leadership support is required to sustain internal legitimacy and credibility, a problem considering changing corporate leadership and the risk for sponsors of losing their own political capital[31,41].

"Internal conflicts of interest, misalignment between business unit and CVC as well as inflated reporting structures generally represent some of the greatest challenges when founding and operating a CVC unit", explains Nils Berkemeyer, the Venture Capital Manager of Continental[40]. "Newly founded CVC units typically must drive a major paradigm shift across the whole company that may stand in direct contrast to its cultural DNA. Instead of supporting the core business, CVC investments often rather challenge the status quo and aim to identify new avenues of growth. While a business unit's primary task is to fulfill its annual budget and generate profits, the mandate of the CVC unit demands long-term investments that will eventually enable significant business performance leaps in the future – even if this means potentially cannibalizing parts of the current business. If a CVC unit fails to successfully drive this paradigm shift and convince key stakeholders of its tremendous value potential, this may severely limit the CVC unit's ability to truly pursue its strategic mandate and, thus, dilute the accelerating effect it is supposed to have on corporate innovation."[40]

The median life span of a CVC program is merely a year[46]. The impact and magnitude of these challenges is observable by the spectacular fall of Exxon's venture capital unit, in its time the largest and most successful CVC investors of the 1970s. Pressured to serve contradicting internal BU goals, Exxon heavily diversified in out-of-core investments without any link to corporate strategy, for ex. golf club shafts. Changing leadership structures, an aggressive push for consolidation of portfolio companies, conflicting incentives, bad relationship management with startups and an accidental cannibalization of own business led Exxon to dissolve its entire startup portfolio and shut down the program in 1984 with millions of losses[47].

5.3 Organizational set up: autonomy and integration

The unit's organizational setup and operating model must be chosen carefully in accordance with the company's strategic goals and potential areas of conflict[44]. "Essentially, it generally boils down to the question of whether to implement a BU-led or a corporate-led operating

model, i.e. to opt for a tight integration with operational business vs. a more autonomous approach. This is a key question every corporate must address when implementing a CVC unit as this will set the base of the whole operation. Both approaches have specific pros and cons and represent a continuum, along which a CVC can position itself.", says Berkemeyer[40].

Under a BU-led model, the CVC would have limited autonomy, act in existing structures and tightly integrate and collaborate with the BUs. BU's define search fields for CVC investments and provide the budget for individual deals. Accordingly, operational involvement of the specific BU forms a condition precedent to CVC investments. An alternative setup is found in the corporate-led model. Here, the CVC unit defines own search fields and invests from a central (corporate) budget. CVC investments are aligned with the overall corporate strategy and independent from individual BU's involvement, allowing CVCs to be more autonomous and operate with more flexibility like dedicated venture capital funds. Also, a hybrid solution between the two types may be an option to consider.[48]

5.4 Investment strategy

In addition, the team needs to formulate an investment strategy that is most suitable to its current, and future, business. A primary task for management is to agree on the CVC's goals and objectives, i.e. financial or strategic, which has far reaching consequences on the organizational set up, investment approach, team structure or the measurement of success (KPIs)[49]. With this background, Conti needs to decide on specific search fields by taking into account investment hypotheses and whether those should be motivated by exploitative or explorative considerations[50]. Under the exploitation strategy, the CVC would invest in startups from adjacency markets that have a tight connection to current business and help Conti translate existing expertise and resources to new areas[50]. For Conti, this may be investing in ACES segments connected to existing expertise (smart tires, 3D mapping, infotainment solutions)[20], in more advanced hardware or supply chain solutions. In contrast, explorative investments are

only loosely related to current business where Conti holds little to no expertise[50]. Attractive out-of-core areas for Conti may be found on the product side (ride-sharing services, in-cabin sensing, emotion recognition) or on the market side moving further downwards the value chain (direct B2C sales channels, E-commerce, production of own vehicles)[50].

However, by pushing forward ACES, Conti may disrupt itself, drive hardware commoditization and cannibalize some of their existing core business[31]. Management needs to carefully weigh this consideration and proactively manage the possible internal conflicts that may arise with it. Additional factors of an investment strategy surround the trade-off between diversification or specialization, focusing on certain specialized regions or global diversified markets, stage focus and the related risk/reward profile Conti is willing and able to take, as well as the collaboration with other (corporate) investors and their portfolio companies[31, 48]. Also, Conti needs to address the issue of incentives. Typically, VCs involve high-powered incentives for GPs that play a key role in overcoming agency and adverse selection problems. However, whilst incentives may orient investment professionals around returns and retention, in a CVC context, they are prone to internal conflicts, cultural mismatch and ambiguity in application[42]. Conti needs to carefully consider the specific organizational structure and strategy, corporate resources, competitive landscape and technology outlooks to develop a sound investment strategy that helps Conti achieve its aspirations efficiently.

Other questions remain. Conti needs to decide on how open they want their ecosystem to be and to what extent Conti can and wants to become a software and analytics company. How fast can C-level management and the new CVC unit move Conti in the right direction? There is great pressure to embrace change faster and bring all relevant stakeholders on board, because without them, the strategic renewal and impact of their new innovation initiatives may remain marginal. Can Conti succeed in this complex and competitive space? Or is Conti opening Pandora's box and about to lose itself between short-term survival and future innovation?

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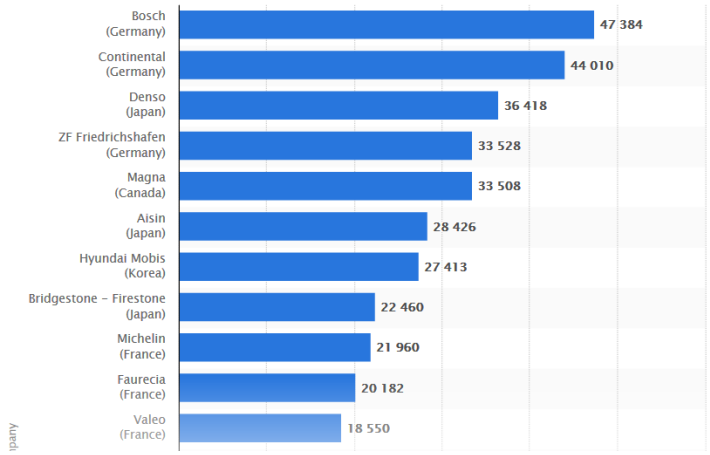
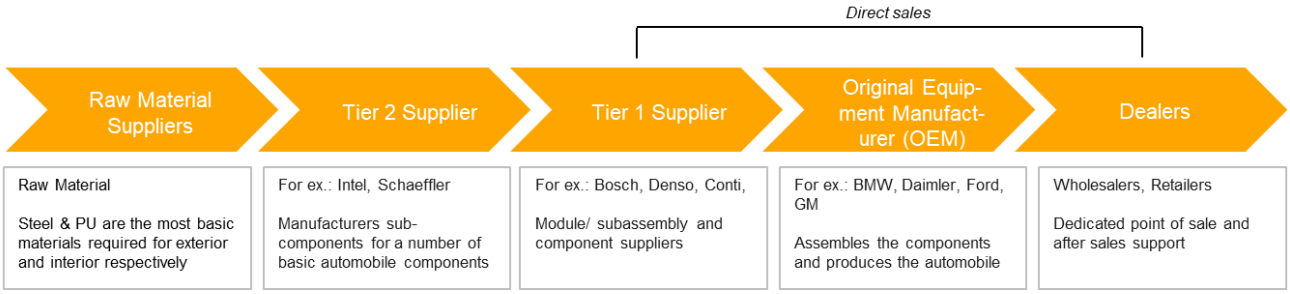
Appendix 1 – Top global automotive tier one suppliers, based on revenue (in M EUR)



Source: Statista. (2018). *Top global automotive suppliers based on revenue 2017*. Retrieved from https://www.statista.com/statistics/199703/10-leading-global-automotive-original equipment-suppliers/

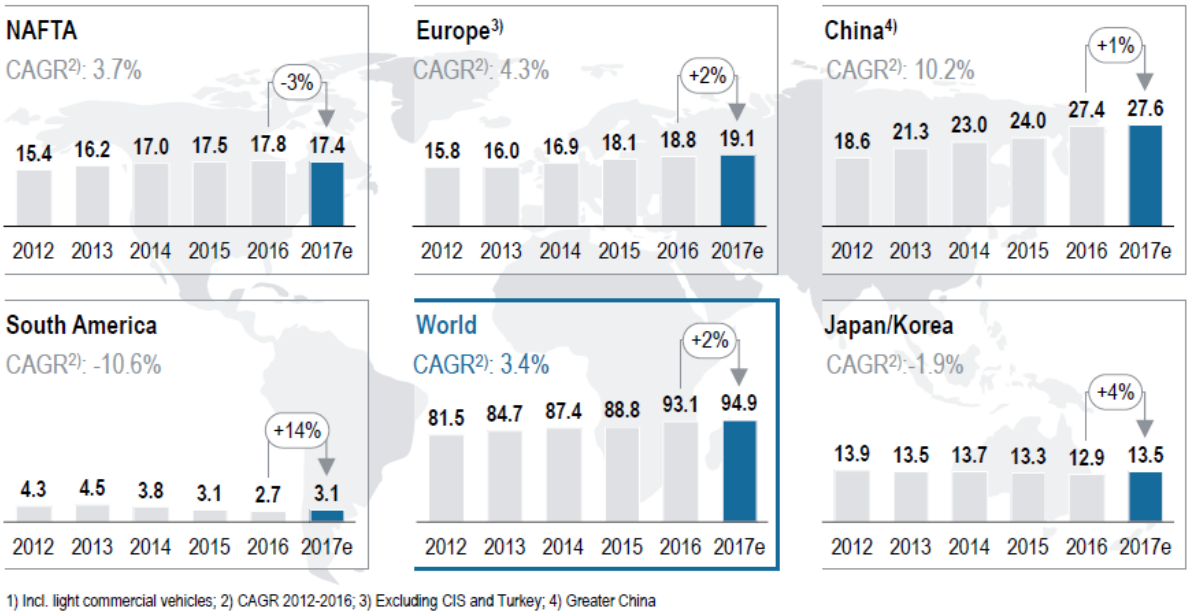
Appendix 2: Automotive value chain (simplified view, own visualisation)



Source: Germany Trade and Invest. (2018). *The Automotive Industry in Germany*.

Roland Berger & Lazard (2018). *Global Automotive Supplier Study 2018*.

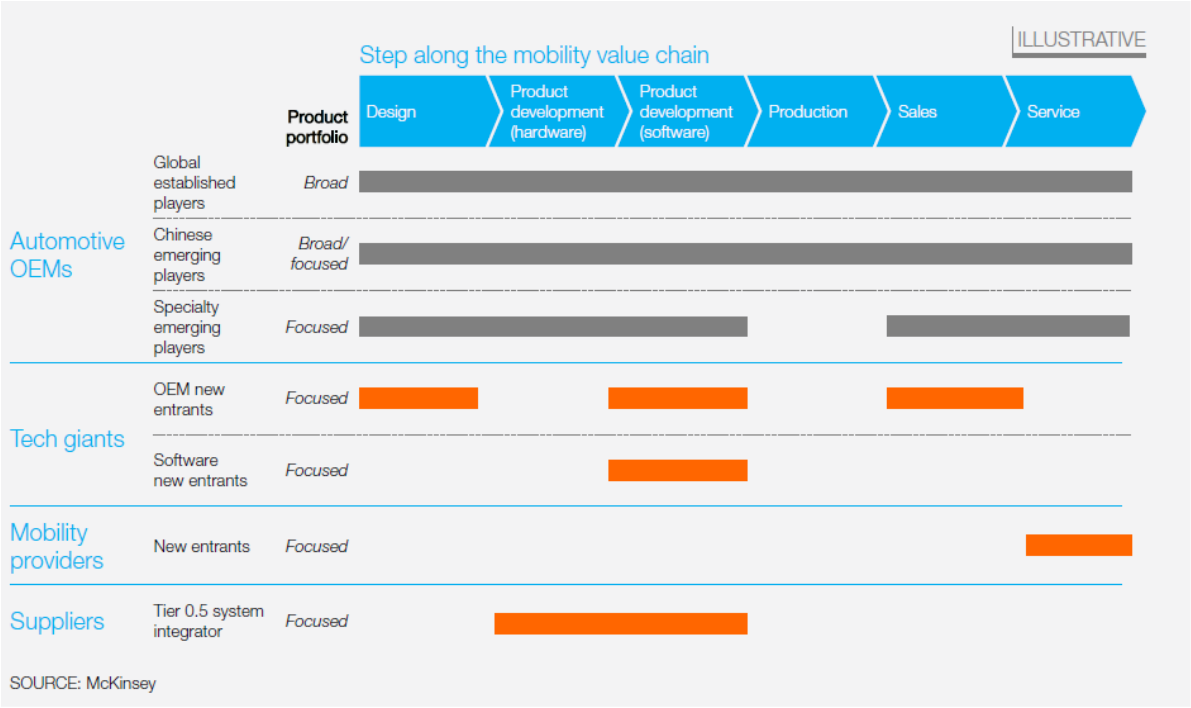
Appendix 3 – Global light vehicle production volume by region, 2012-2017 [M units]



1) Incl. light commercial vehicles; 2) CAGR 2012-2016; 3) Excluding CIS and Turkey; 4) Greater China

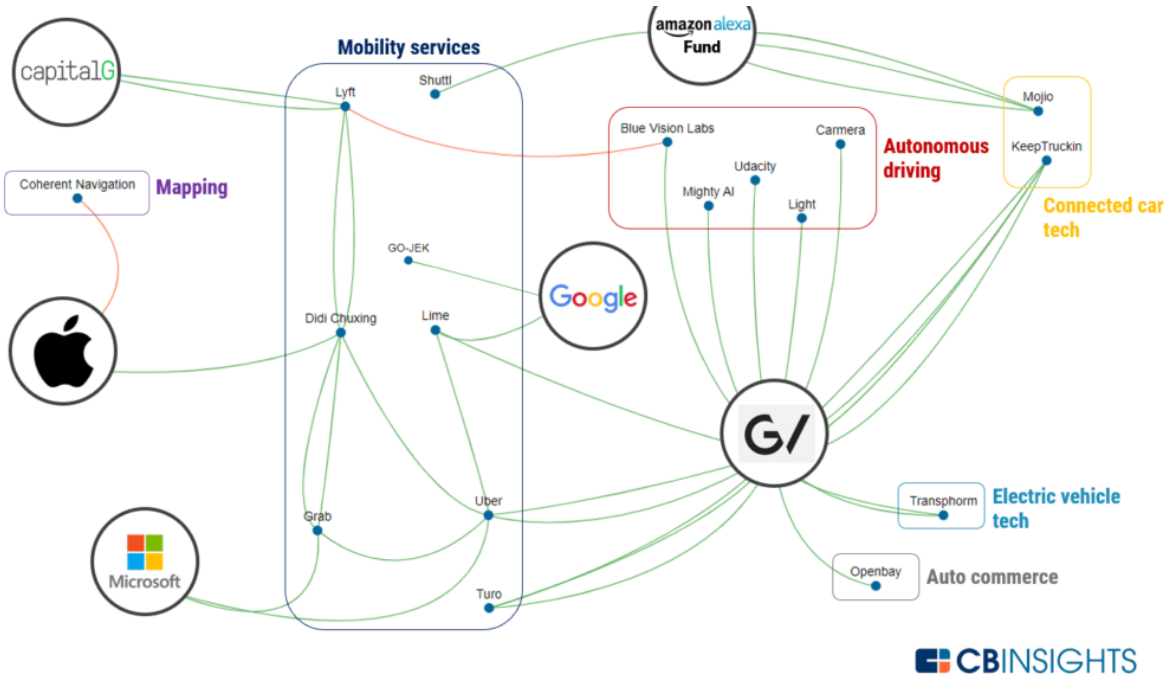
Source: Roland Berger, Lazard. (2018) *Global Automotive Supplier Study.*

Appendix 4 – Focus of competition with specialized new entrants increase competitive pressure



Source: McKinsey & Company. (2016). *Automotive revolution – perspective towards 2030.*

Appendix 5 – FAMGA's investments in the auto / mobility space (2013-2018YTD)

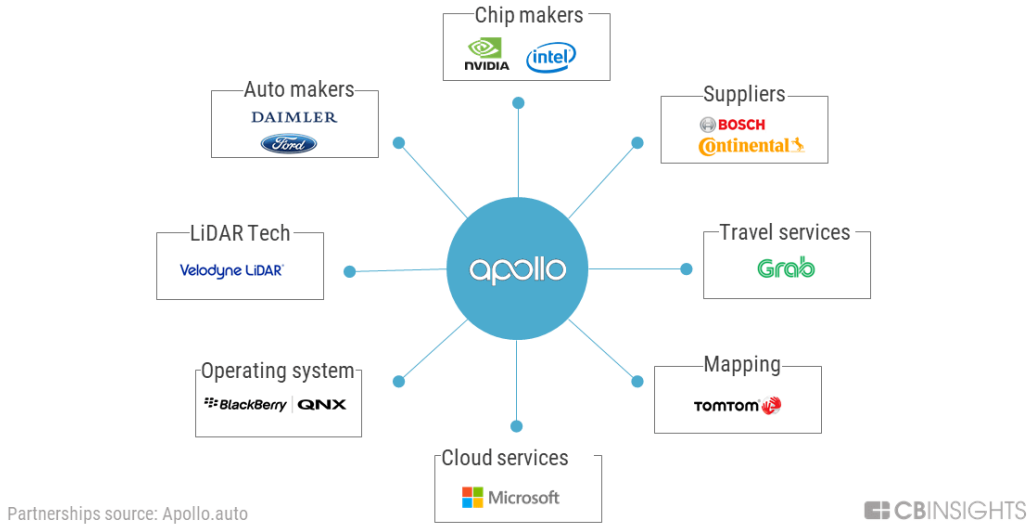


Source: CB Insights. (2018). *How Big Tech Is Tackling Auto & Mobility.* Retrieved from https://app.cbinsights.com/research/facebook-amazon-microsoft-google-apple-auto-mobility/

Appendix 6 – Baidu's Apollo platform: Becoming the Android of Automotive

Baidu is taking an innovative approach to managing innovation. Next to opening an investment fund worth $1.5 billion for autonomous driving startups, in April 2017, Baidu launched its Apollo project, an open source platform for autonomous driving software, mirroring Google's open source mobile operating platform (Android OS). Running a strong partner network of by now over 100 major global OEMs, auto suppliers and chip makers (including Continental), Baidu gets access to mass amounts of valuable driver data and can focus on software development whilst leaving OEMs and auto suppliers with hardware manufacturing. By making it freely available as an open system, the strategy should benefit each partner and accelerate the development of self-driving cars. Baidu's long-term strategy with Apollo is to become the standard operating system for integrated mobility services for the connected, autonomous vehicle. Apollo further pushes software-hardware decoupling by acting as an intermediary and directly negotiating with automakers, hence eliminating tier ones' role as intermediary and making them in turn dependent suppliers of Baidu.

Selected international partners of Apollo:



Source: CB Insights. (11. June 2018). *Baidu builds global autonomous driving ecosystem. Android of the Auto Industry*. Retrieved from https://app.cbinsights.com/research/baidu-china-autonomous-vehicles/

Appendix 7 – Organizational Structure Continental AG (January 2018)

Structure of the corporation

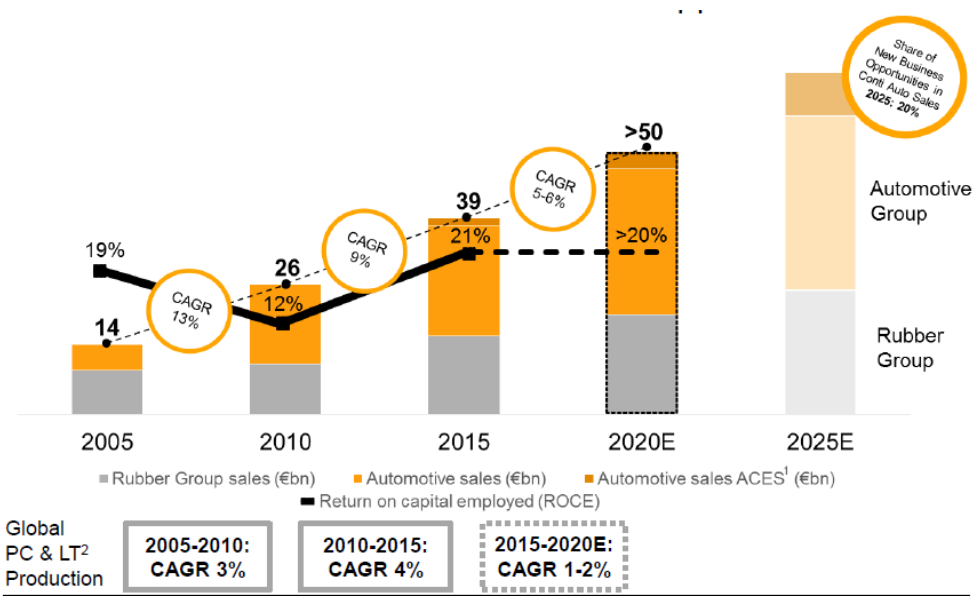
Continental Corporation
Sales: €44.0 billion; Employees: 235,473

Automotive Group Sales: €26.6 billion; Employees: 134,286			Rubber Group Sales: €17.5 billion; Employees: 100,749	
Chassis & Safety Sales: €9.8 billion Employees: 47,788	**Powertrain** Sales: €7.7 billion Employees: 40,492	**Interior** Sales: €9.3 billion Employees: 46,006	**Tires** Sales: €11.3 billion Employees: 53,811	**ContiTech**[1] Sales: €6.2 billion Employees: 46,938
› Advanced Driver Assistance Systems › Hydraulic Brake Systems › Passive Safety & Sensorics › Vehicle Dynamics	› Engine Systems › Fuel & Exhaust Management › Hybrid Electric Vehicle › Sensors & Actuators › Transmission	› Body & Security › Commercial Vehicles & Aftermarket › Infotainment & Connectivity › Instrumentation & Driver HMI › Intelligent Transportation Systems	› Passenger and Light Truck Tire Original Equipment › Passenger and Light Truck Tire Replacement Business, EMEA › Passenger and Light Truck Tire Replacement Business, The Americas › Passenger and Light Truck Tire Replacement Business, APAC › Commercial Vehicle Tires › Two-Wheel Tires	› Air Spring Systems › Benecke-Hornschuch Surface Group[2] › Conveyor Belt Group › Industrial Fluid Solutions › Mobile Fluid Systems › Power Transmission Group › Vibration Control

1 Reorganization of individual business units in January 2018.
2 Renamed in June 2017.

Source: Continental AG. (2018). *Annual Report 2017.*

Appendix 8 – Continental Strategy: Outlook 2020 and Beyond. Four ACES to advance growth opportunities.



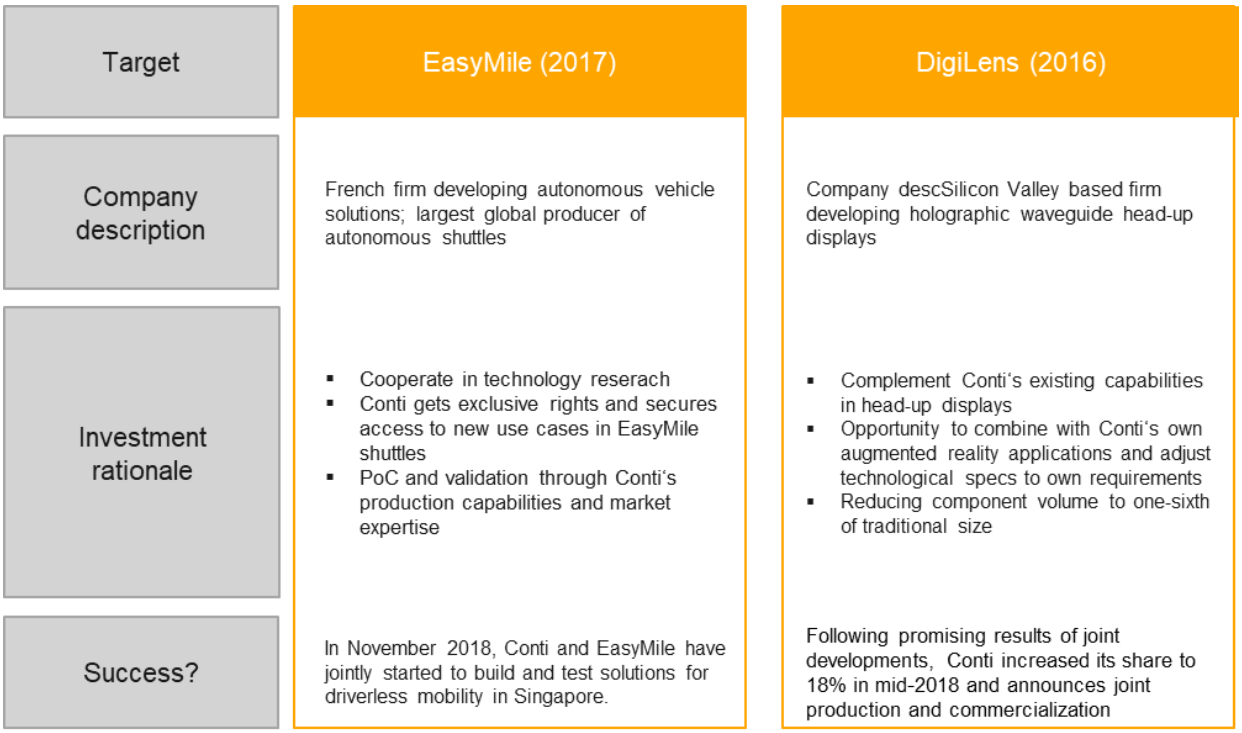
Source: Continental AG (2018). *Driving the Future of Mobility – Strategy presentation.* Retrieved from https://www.continental-corporation.com/resource/blob/119090/e35974c26ed53acae09210eef0e87bd3/strategy-presentation-data.pdf

Appendix 9 – Continental's Research and development expenses (net) 2016-2017

	2017		2016	
Research and development expenses (net)	€ millions	% of sales	€ millions	% of sales
Chassis & Safety	913.8	9.4	773.4	8.6
Powertrain	699.0	9.1	701.5	9.6
Interior	1,062.7	11.4	956.0	11.5
Tires	289.8	2.6	260.9	2.4
ContiTech	138.4	2.2	119.7	2.2
Continental Corporation	**3,103.7**	**7.1**	**2,811.5**	**6.9**
Capitalization of research and development expenses	**92.1**		**105.9**	
In % of research and development expenses	2.9		3.6	
Depreciation on research and development expenses	**74.5**		**54.3**	

Source: Continental AG. (2018). *Annual Report 2017.*

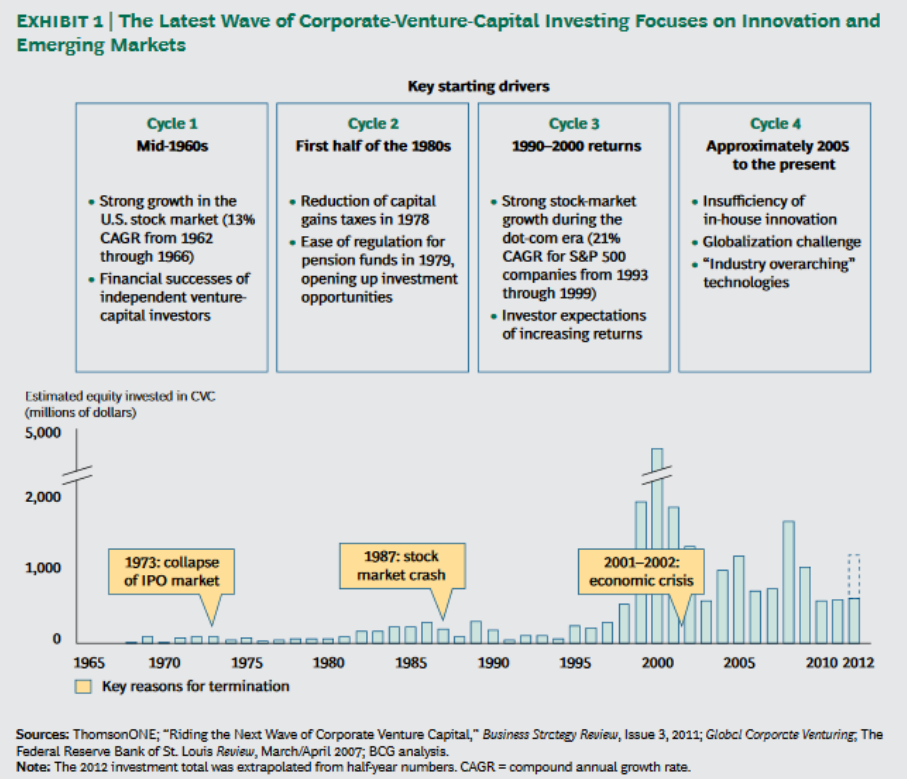
Appendix 10 – Examples of Continental's startup investments until 2018 (own visualization)



Source: Continental AG. (2017, July 4). Continental is investing in EasyMile and pushing ahead with the development of driverless mobility [Web log post]. Retrieved from https://www.continental-corporation.com/en/press/press-releases/continental-is-investing-in-easymile-70642

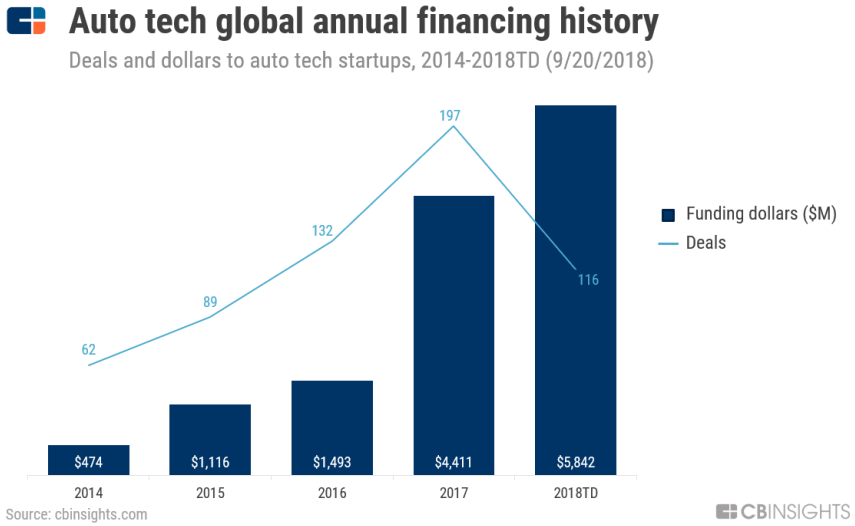
Continental AG. (2018, May 17). Revolutionizing Head-up Displays'Continental Increases Investment in DigiLens [Web log post]. Retrieved from https://www.continental-corporation.com/en-us/press-/press-releases/revolutionizing-head-up-displays-continental-increases-investment-in-digilens-130152

Appendix 11 – The four waves of CVC investing



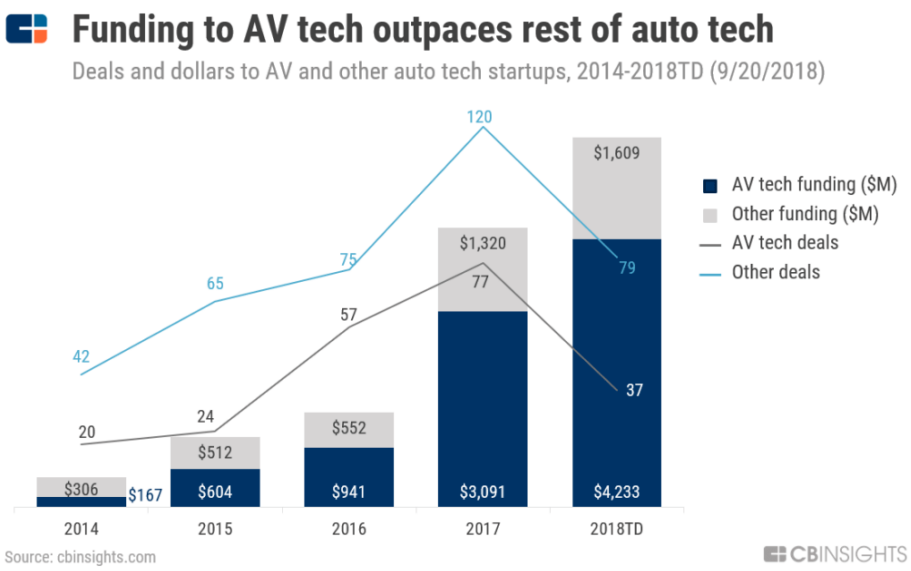
Source: The Boston Consulting Group. (2017). *CVC – Avoid the risks, miss the rewards.*

Appendix 12 – Development auto tech global annual financing history



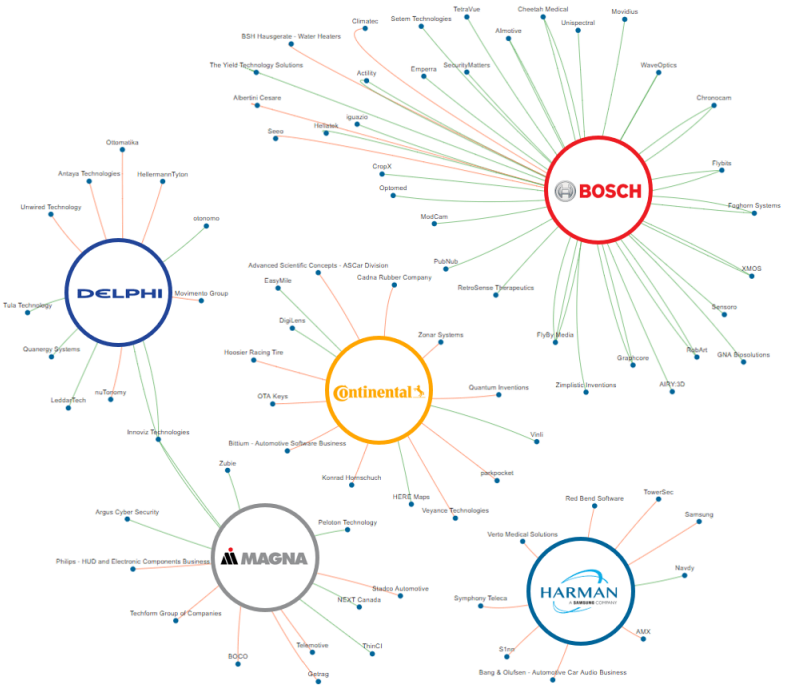
Source: CB Insights (2017). *Autonomy is driving the surge of auto tech investments.* Retrieved from https://app.cbinsights.com/research/auto-tech-startup-investment-trends/

Appendix 13 – Funding to autonomous vehicle tech outpaces rest of auto tech



Source: CB Insights (2017). *Autonomy is driving the surge of auto tech investments.* Retrieved from https://app.cbinsights.com/research/auto-tech-startup-investment-trends/

Appendix 14 – Automotive suppliers M&A and equity investments from 2014-2017



Source: CB Insights (2017). *Where auto suppliers place private market bets.* Retrieved from https://app.cbinsights.com/research/auto-supplier-startup-investments-acquistions/

Teaching Note

Case Synopsis

After years of stable growth and solid financial performance, Continental AG, one of the world's largest automotive tier one suppliers, finds itself confronted with significant underperformance in key markets, staggering growth in its core business and increasing competition from new players at multiple fronts. However, Conti's situation in 2018 is not unique and perfectly depicts the general situation in the automotive tier one space at the moment: Further enhanced by the latest (diesel) scandals, the global paradigm shift away from individual car ownership to consumption of on-demand and shared mobility services strongly impacts traditional sales growth. While OEMs are to take the first blow, automotive tier ones appear to suffer even harder given their historically passive business model and secondary place in the automotive value chain - a value chain, which increasingly converges with other verticals, such as consumer electronics and software, as the car slowly turns into a commodity platform for services. Against this background, Conti must not only compete with its traditional automotive peers, but simultaneously anticipate intense competition arising from software giants such as Google, which are aggressively pushing into the automotive space. In order to do so and to ultimately preserve its leading role in the mobility sector, Conti must rearrange itself and strike a balance between core business focus and new business development. The latter requires both tremendous innovation and organization efforts. Partly owed to a history of acquisitions, Conti's organizational structure is characterized by powerful silos and decentralized innovation units, which may prevent the corporation to tackle its innovation challenges effectively. According to recent press releases, the company appears to have realized the urgency of the moment as it has announced big plans in terms of restructuring and open innovation with the aim to drive innovation more effectively and capitalize on new opportunities faster. One of the key elements of Conti's so-called Future Mobility Strategy is

the foundation of a dedicated venture capital unit as a mean to effectively tap into external innovation. Starting off with a small team of CVC investors, the company is now faced with the critical question of choosing the adequate organizational setup of the CVC unit. With reference to the company's current financial situation, organizational structure, competitive landscape and future aspirations, deciding on its setup represents a very delicate task. The unit's organizational setup and operating model must be chosen carefully in accordance with the company's overarching strategic ambitions and potential areas of internal conflict. By first assessing Conti's challenges from an industry perspective before delving deeper into the specifics of setting up a CVC as part of a company-specific innovation approach, the case at hand covers the whole spectrum of managing the corporate transformation of a large incumbent.

Learning Objectives

This case can be of interest to instructors who are lecturing in the areas of *digital strategy and transformation*, *open innovation* and *venture capital* as part of both MBA and executive education programs. The case study aims to enable students to:

- Develop a solid understanding of the automotive supplier business, the transformative forces behind its current shift and the challenges traditional suppliers ought to face
- Apply the general dynamics of digitalization to the traditional automotive business and understand the value proposition of new, digitally enhanced business models
- Explore an incumbent's organizational options in gearing up for a radical shift towards digitally-driven mobility services
- Discuss the role and potential of CVC in promoting innovation in large organizations
- Investigate different operational alternatives in setting up a CVC unit under close consideration of basic principles that determine organizational behavior

Suggested Assignment Questions and Study Material

1. Who will be Conti's biggest competitor next year, in 5 years and in 20 years? Why?
2. How do you assess Conti's Future Mobility strategy?
3. How can Conti address its future innovation challenges? Develop a specific action plan for Degenhart to accelerate innovation capabilities at Conti and set up its CVC practice

Instructors may recommend students the following literature as an introduction to the phenomenon of corporate venture capital and for understanding the different choices around organizational setup options:

- Chesbrough, H. (2003). Making Sense of Corporate Venture Capital. *Harvard Business Review*.
- Iskender, D. (2017). *A Manual for corporate venture capital*.

As an in-class introduction to Conti, the instructor may make use of the following video:

- Youtube, "Continental Image Film - Beauty in Motion", 9 September 2017, https://www.youtube.com/watch?v=6zZfKMd88dw, accessed 3 December 2018.

Case Analysis

How is digitization impacting the automotive industry?

The global paradigm shift towards digital mobility software and services holds great transformative and disruptive potential for the automotive industry. Take the case of Google Maps (GM)[1]: After starting off in an underserved low-end niche offering digital maps, only after securing a large and loyal customer base, GM launched its navigation services, which, having better performance (real time data), lower price (free) and greater customization (connected to other smartphone apps), disrupted the navigation system business and caused the market value of traditional players like Garmin and TomTom to drop by 60% within weeks[1]. Current ACES and technological developments may create an even bigger stir: Even though electric and fully autonomous vehicles are still in the era of ferment[2], once major obstacles are overcome, industry adoption is expected to explode and open up numerous new use cases for software applications. Just like the smartphone, the vehicle will turn from a technical into a

social commodity and become a platform for integrated mobility services. On-demand transportation as a service is expected to disrupt the traditional, ownership-based business model and ICE automobile with far reaching impacts on the entire automotive value chain.

Managing corporate ambidexterity

To deal with the potentially disruptive changes in technologies and markets whilst cutting costs and driving efficiency, organizations need to resolve the inherent contradictions of engaging in both exploration and exploitation simultaneously. Whilst companies attempt to structurally separate the different units by centralizing R&D, the implementation of structures for explorative behaviors often poses a great challenge for automotive companies like Conti with a culture driven by powerful BUs, process orientation, mechanistic structures and cost efficiency discipline. To prepare their businesses for innovation, auto players are pushing off mature businesses with declining growth potential (for ex. powertrain) to focus on those core competencies and areas that are vital for future growth. Further, and observable in Conti's Future Mobility strategy, tier ones increasingly turn to OI initiatives and enter strategic alliances with ecosystem partners to access innovation faster, develop inhouse software capabilities and enhance internal ambidexterity. In this context, Conti needs to carefully select the degree of openness in critical partnerships so that their competitive advantage and proprietary knowledge is not put at risk. This, for example, may be a critical point in Conti's collaboration with Baidu.

Corporate venture capital

CVC activity has received momentum in automotive as a means to tap into external innovation efficiently, capitalize on new technologies faster and promote cultural change. Nevertheless, CVCs often fall short of said potential as organisational dynamics and internal conflicts can impede such innovative endeavors. As the famous fall of prior CVC leader Exxon shows, designing the organizational structure of a CVC unit represents an extremely delicate task if aimed at sustainable success. In this context, particularly the level of autonomy and integration

into corporate structures is a critical design feature. While e.g. manufacturing companies may be mainly focused on incremental, exploitative innovation and thus be better off with a tightly integrated CVC unit, companies in dynamic industries, such as automotive or telecom, might achieve greater upsides when equipping their CVC units with more autonomy so they can explore and observe out-of-core markets. Conti needs to assess to which degree they want - and are able to - move from being an industrial automotive component manufacturer to an analytics and software company and formulate their investment strategy accordingly.

Suggested Discussion Plan

The following suggestion for a case discussion has four main sections and is designed for a 90-minutes class. The case study draws upon two main fields, (1) digital strategy & transformation, and (2) venture capital and is structured accordingly, applied to the example of Conti. Due to the dual-themed nature of the case, instructors can choose whether to work through the suggested plan in full or whether to examine the specific topics independently according to their course area by emphasizing certain parts. Further, critical points are highlighted in the form of suggested comments to the questions, which the instructor may use to guide the discussion.

Introduction (5 minutes)

To ground the discussion, the instructor may want to show the suggested video and briefly ask students to outline the situation Conti faces in 2018. Highlights include the staggering financial performance, the announcement of corporate restructuring or plans around scaling up OI.

Block 1: The automotive industry in transformation (15 minutes)

The instructor may initiate the class discussion by starting from a big picture perspective and ask students: *What do you think will be Conti's market performance in 20 years – will it underperform, market perform or outperform the market? And why?* The instructor may want to capture the different opinions and comments on the board.

To dive deeper into the industry analysis, the instructor may ask*: Is Conti's situation unique? What is happening in the automotive industry?* The discussion may emphasize two key points:

- Changing rules of the game due to convergence of electronics and automotive verticals, paradigm shift to on-demand transportation as a service and hardware commoditization, as software offers differentiation and control over access and service (i.e. pricing)
- OEMs to take the first blow, but tier ones expected to suffer more due to passive business model, secondary place in value chain and the incompatibility of traditional business to offset cost increases with rising production volumes due to demand decline

The instructor may want to explore the disruptive trends around software and services by taking a look across industries. *Do you see similarities with developments elsewhere? Why?*

- Reasons: significant advances in AI, IoT and data analytics; more advanced digital software capabilities and services included in hardware; increased vertical integration of software; fast rate of technological change; lower transaction and switching costs; higher margin software business; changing consumer behavior
- Change of value proposition towards usage, services, "pay as you go", "on demand"
- Examples: Smartphone, Banking, Navigation systems, Manufacturing machinery

Students' comments provide a pivot to link it with academic theories such as Christensen's concept of disruption, the technology S-curve or setting a standard. Depending on the instructor's intentions around the theory to cover, he may want to ask students, *Can you link these examples from practice with [disruption theory]?* The discussion should highlight the urgency for incumbents to address disruptive threats early.

Block 2: Continental shifting gears & Future Mobility Strategy (15 minutes)

The instructor may initiate the analysis of Conti's Future Mobility strategy by asking: *What are the reasons for Conti to carve out one of its largest units, Powertrain?* Answers may entail:

- ICE on the decline; gain flexibility; set ground for potential exit scenarios or industry consolidation; increase exposure to growth fields; frees up resources to invest in R&D

The discussion pinpoints on the importance of new product development and innovation, inviting the instructor to ask: *How do you evaluate Conti's approach in managing innovation?*

- Future Mobility Strategy as first step into right direction: focus on innovation; new CTO; central R&D unit; increase OI through partnerships, startup engagement and CVC
- But: little proximity to future markets; own R&D insufficient; siloed structure and powerful BUs inhibit internal knowledge transfer; mismatch in culture and agility

The teacher may build upon this and press students to think critically: *Do you think Conti can and will successfully compete with tech companies in the future?* Students' opinions may vary:

Yes: industry average performance; extensive auto supplier experience; well-established sales channels; competitive portfolio in both hardware and software; large resource base and network that can hardly be replicated by new entrants; global R&D teams; no software works without underlying hardware; reputation, customer loyalty and trust as key competitive advantage

Maybe: lack of experience in and proximity to new differentiation areas around ACES; cultural mismatch; obstacles due to secondary position in value chain, passive business model and mindset, dependency on OEMs; long product development life cycle; core competencies around hardware are commoditized, hence might reduce sales revenues and available resources for investments; GAFAM is experienced, well-positioned, and invests aggressively (Baidu sets up fund worth $1.5 bn), lock-in effects through integration with their other software offerings; hardware-software decoupling gives tech companies more bargaining and value chain power

The discussion invites the instructor to ask students to explore platform strategies and the tradeoff with regards to Conti's degree of openness in critical partnerships: *How do you view Baidu's Apollo project and Conti's role in it?* Potential responses are enclosed (Appendix 1TN).

Block 3: Corporate venture capital set up & investment approach (15 minutes)

Building upon Conti's push towards OI through setting up a CVC, the instructor may begin the discussion and introduce the topic of CVC by asking: *Do you think it was a good decision to launch a CVC unit or should Conti have rather used the money for internal R&D*? This make or buy debate highlights the key points senior management has to consider (Appendix 2TN).

To manage these challenges, Conti may want to consider different options for the organizational set up: *Which of the models would you use and why? How may a hybrid look like?* A detailed comparison of the different options can be found in Appendix 3TN. Most critical points entail:

- **BU-led model:** direct operational benefits and deep technology insights, but risk of adverse selection, agency conflicts and risk of missing out on disruptive developments
- **Corporate-led CVC model**: structural ambidexterity, agile and entrepreneurial, identify future market trends early, but less operational quick wins and support of BUs
- **Ideas for Hybrid model**: collaboration in due diligence, CVC gets own budget, fixed investment split, central investment committee to provide checks and balances

Some students may highlight that incentive-based pay through carried interests ("carry") may provide a powerful tool to help resolve agency and adverse selection issues in CVC. However, employing carry in a corporate setting bears challenging trade-offs. *How may this work in CVC and at Conti? Should Conti follow the example of VCs and offer carry?* (Appendix 4TN)

Subsequently, the instructor may shift the focus to considerations around Conti's investment strategy: *In your opinion, which investment approach should Conti follow, i.e. invest in adjacencies (exploitation strategy) or in out-of-core areas (exploration strategy)?*

Adjacencies: stabilize core business; generate resources to spare for innovation investments and grow in emerging markets; higher probability of success as Conti can draw upon existing resources; immediate operational benefits; reduce risk of cannibalization

Out-of-core: ACES markets expected to grow; higher margin software business; increase competitive position; horizontal and vertical integration and diversification allows to capture greater part of value pie; identify disruptive forces in time and keep track of innovations

The cannibalization of existing (hardware) business through explorative (ACES) investments may further pose an interesting debate for students. Depending on the course plan, the instructor may want to dive deeper into the technicalities of CVC investing. *How would you design Conti's investment strategy?* Students may discuss using own ideas and examples. A detailed discussion of possible features of investments strategies (segment, stage, regional focus; strategic vs. financial objectives; deal sharing; ticket size) can be found in Appendix 5TN.

Wrap-up (10 minutes)

To conclude, the instructor may ask: *Moving forward, what should Conti do to accelerate the pace of their progress?* Potential comments of students may entail:

- enhance interaction across business units to push joint developments, speed up knowledge transfer and align interests despite the decentralized organizational structure
- increase absorptive and implementation capabilities through agile project management methods ("software swat teams") or Silicon Valley best practices (80/20 rule, failure culture, incentive-based pay, fluid objectives), helps in attracting rare digital talent
- consider further vertical integration downstream to higher margin business with more control and information advantages (B2B business, E-commerce, produce own vehicle)

Continental's venture provides an example of how digital transformation is impacting business models, value propositions, and modes of competition for incumbents across industries and offers comprehensive material for students to explore the topic themselves.

Additional References

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2) Anderson, P., & Tushman, M. L. (1991). Managing through cycles of technological change. *Research-Technology Management*, 34(3), 26-31.

Appendix 1TN - *How do you view Baidu's Apollo project and Conti's role in it?*

Baidu's Apollo project (Case Appendix 6) leverages the power of a platform strategy:

- **Baidu as platform enabler:** become the "Android of Automotive"; develop a standard around own software and thus ensure for ex. product compatibility with third party solutions, strong competitive position and high bargaining power
- **Benefits for all parties:** accelerate autonomous driving; cost-effective route to market and faster product development; each partner can focus on own core competencies (software for Baidu, automotive supplies for Conti) whilst leveraging partners' specialized expertise; create large product variety; greater success through joint production; open-source nature reduces costs and easier access; reduction of redundancies; reduce complexity through improving overall consistency
- **Critical points to consider for Conti:** disclosure of own proprietary information, IP, strategy; reduce own bargaining power, dependency on Baidu as intermediary; push software-hardware decoupling; might reduce own R&D efforts for developing a similar autonomous driving software; large competitors also participate in Apollo, thus no competitive advantage and maybe even risk of losing competitive power; Baidu may

use their power position and vertically integrate, becoming a direct competitor of Conti; great reliance on a lean supply chain creates vulnerability to potential disruptions

Conti to employ own platform strategy: Student's may suggest Conti to leverage its resources, experience and strong position in the automotive value chain as well as tight relationship with network partners to pursue a similar platform approach. They may refer to Conti's Future Mobility strategy, where Conti has announced planned investments in developing a technology for a central operating system for connected vehicles with the capability of integrating third party software solutions. This would allow Conti to absorb the advantages of a platform approach, act as a complementary to own R&D initiatives and reduce dependency on software partners like Baidu. Further, becoming the structural enabler of (third party) mobility solutions and software may allow Conti to focus and invest their resources more efficiently than applying a 'shot gun'-approach, particularly considering the complex market and its many technologies.

Appendix 2TN - *Do you think it was a good decision to launch a CVC unit (Buy) or should Conti have rather used the money for their own R&D units (Make)?*

Buy: long-term strategic tool (efficient access to innovation at an early stage); explore out-of-core markets and new verticals whilst externalizing risk compared to an alternative make-scenario; avoid neglecting disruptive advances that occur outside the company as internal R&D becomes more narrow; through equity investment, participate in the startup's value increase, operational benefits, and eventually enter commercial agreements or acquire the startup; drives business growth (supply Conti with technologies in areas where Conti was siloed before or act as a customer or value chain partner); proactive defense mechanisms against competitors through preferred information rights; easier disengagement

Make: Many CVCs fail or not live up to their potential; many risks (odds of success of startup investments, loss of control compared to in-house R&D, uncertainty); principal agent conflicts (for ex. diverging interests of powerful BU's, adverse selection, cannibalism, scarce corporate resources); challenging knowledge transfer; cultural mismatch; lack of understanding of the nature of CVC investing

Appendix 3TN - *Which of the models would you use and why? How may a hybrid look like?*

A. BU-led model:

- Advantages: achieve direct/immediate operational benefits from startup cooperation; limited resistance of BU as BU's decide on search fields and make investment decisions; deep technology insights due to direct interaction with startups; little organizational changes necessary
- Disadvantages: investment areas are limited to BU's core business and adjacencies, thereby missing out on potentially promising out-of-core markets or disruptive trends; strong agency conflicts and adverse selection (BUs incentivized to protect their turf, thus may on purpose avoid investing in disruptive technologies); may slow down CVC activity through increased bureaucratization or if follow-on financing depends on successful proof of concept with Conti; may hinder BUs from focusing on their core business

B. Corporate-led CVC model:

- Advantages: structural ambidexterity (separating explorative from exploitative units); more agile and entrepreneurial culture matching startup environment; autonomy around search fields and own budget allows CVC to identify and understand future market trends early; flexibility and speed; less agency conflicts

- Disadvantages: internal conflicts (due to for ex. less interest and support on the BU-level such as technical expertise and resources); limited integration may hinder operational quick wins; suffer from weak decision making, i.e. as respective BU's do not have "skin in the game" and apply laissez faire-approach

C. Hybrid model:

- Potential set up ideas drawn from classic VC best practices: BU and CVC to closely collaborate in identifying search fields, yet CVC gets own budget; Right to split investments (for ex. 50/50) as well as pursue deals without buy-in of the other party to balance power; set up neutral investment committee with corporate representatives that acts as checks and balances for both BU and CVC
- Advantages: Explore future markets without compromising BU support; both exploitative and explorative; decision-making speed; due diligence expertise; BU integration

Appendix 4TN - *How may incentive-based pay work in CVC and at Conti in particular? Should they follow the example of VCs and offer carry?*

- high-powered incentive common in private VC and institutional investment settings
- GPs and investment professionals receive salary, bonus and carried interest ("carry") tied to the fund's performance and time-frame; often only accessible upon seniority
- CVC's have a weak incentive intensity as successful implementation is often impeded by internal risks and hurdles

Reasons for employing incentives at Conti's CVC unit:

- aligns interests of the investment team with the corporate ("the LP") and entrepreneurs, because they participate in the upside and downside simultaneously

- strong risk-reward-package creates commitment, rewards performance, incentivizes long-term value creation and punishes failure
- valuable tool to attract critical talent, who often require the same attractive carry structures found in the private market from corporates, and retain them for a longer time period, as carry is typically bound to the fund's specific time frame

Risks to consider when employing incentives at Conti's CVC unit:

- difficult to define fair and accurately measured performance KPIs (e.g. contribution to corporate innovation capabilities, strategic vs. financial KPIs)
- dealing with mixed teams, e.g. whilst employees coming from the corporate expect traditional corporate compensation (salary, bonus, stock grants), members with private VC background expect a carry
- stock grants for Conti stock as incentives are inaccurate (blend performance of a small startup with that of a large tier one)
- strong risk/reward profile creates mismatch with Conti's current culture
- CVC unit required to be set up as a separate fund from an accounting perspective

Lucent Venture Capital[42] **as best practice example may serve as a role model for Conti**:

- CVC set up as separate fund that distributes profits from investments to employees based on individual performance, overall fund performance, and employee seniority
- employees forego their annual bonus in return for shares in more risky "phantom stock" that would pay off only if the portfolio company proves successful
- this pseudo equity has vesting schedules tied to startup investments (7-8 y instead of 3-4 y common for corporates stock) incentivizing employees to stay at Lucent VC

Appendix 5TN - *How would you design Conti's investment strategy?*

Student's answers regarding the different CVC investment strategy components may vary along the following lines:

A. Segment focus:

- *Focus on specialized search fields (Bauer Media, Commerz Ventures, Vito Ventures)*
    - maximize impact and asset utilization due to synergy effects
    - benefits scouting and deal flow
    - better evaluation of startups through direct benchmarks
    - specialized and better-quality deal flow
    - build a competitive brand through reputation as a specialized investor
    - better support of portfolio firms through expert knowledge and scale effects
    - strategic fit to Conti's Future Mobility Strategy provides authenticity
    - possible suitable areas: sensors or smart tires, but rather not ride sharing services
- *Diversify as generalist investor (Bosch, General Electric)*
    - risk diversification (don't put all bets on one hand, 'shot gun'-approach
    - observe the entire industry development and reduce threat of disruption from emerging players from other fields (cf. Amazon)
    - matches the interlinked and overarching nature of current disruptive technologies (AI enables advances in all automotive products and services)
    - Conti's largest competitor Bosch pursues a generalist strategy

B. Stage focus

- *Early stage (Seed and early stage):*
    - higher return potential
    - strategic CVCs preferred for support and mentoring

- can minimize the high risk through better scouting through Conti's deep tech and market expertise and better support through synergies and operational support
- greater influence and 'control' of development of disruptive market entrants
- less competition
- startups can use Conti as reference case (attract customers, partners or other investors, immediate increase in valuation)

- *Later stage (Series A or B and upwards):*
  - commercial proof and revenue generation matches corporate's lower risk profile
  - immediate operational benefits from cooperation
  - suitable target for M&A
  - financial CVCs preferred (growth and exit financing)

C. Regional focus:

- depends on the search fields Conti identifies: whilst global sourcing matches the generalist's strategy in observing global innovation and trends, specialization in identified search fields or regions may allow a more efficient focus
- *Germany:* home market; reputational benefits; network; specialized in machinery & engineering; national backbone industry; 1/3 of national R&D in automotive
- *US:* Silicon Valley ecosystem; active and large VC and CVC market
- *Israel:* European tech hub; specialized in semiconductors and sensors
- *China*: innovation leader for ADAS, but fierce competition, risk around IP, regulation

D. Strategic vs. financial objectives:

- *Strategic objectives* (3M):
  - supports Conti's long-term strategic goals of the Future Mobility Strategy

- offer valuable strategic benefits to startups through for ex. corporate infrastructure for production or market testing
- difficulty to formulate and measure strategic KPIs may hinder internal support, as corporates prefer distinct success factors

- *Financial objectives*:
  - more attractive for startups as strategic investors are often perceived as pursuing own goals at the disadvantage of founders (for ex. hinder cooperation with competitors, agency conflicts)
  - greater internal support as it matches corporate preference around financial KPIs
  - hard to quantify the true return of a startup investment as large share of operational returns (e.g. knowledge transfer, future revenue growth secured) are intangible, strategic and long-term
- *Potential solution for Conti*:
  - important to specify objectives publicly, because not doing so dilutes market perception, it allows better deal sourcing and impacts all decisions of how to set up Conti's CVC (operating model, sourcing, team, KPIs)
  - Conti may position itself as a financial investor, like a classic VC, with strategic benefits through strong corporate ties (like SAP's Sapphire Ventures)

E. Deal sharing:

- *Alone:*
  - no disclosure of specifics of own (investment) strategy
  - greater control rights
  - competitive advantage and defense mechanism through information rights
  - more flexibility and faster deal closing
  - maximize learning by being closer to the startup

- *Syndicates (as lead or co-investor):*
    a. strengthen Conti's network; larger financing rounds possible; risk and cost sharing; better due diligence, startup can benefit from diverse competencies; benefits scouting new deals upon successful collaboration with other investors
    b. learn from experienced investors, particularly valuable in Conti's CVC founding stage when investing together with local investors in new markets/fields
    c. begin as co-investor to gain experience, then eventually become lead investor (more control, rights, influence, reputation, closer collaboration with startup)
- *The special case of fund-of-fund investments:*
    - becoming an LP may give access to deal flow and follow-up investments
    - grow Conti's network, both investors and startups
    - exchange information and learn from other fund managers
    - risk diversification and frees up Conti's CVC manager's time for own deals
    - but no competitive advantage, as competitors can also access the fund-of-funds

F. Ticket size:

- *Small ticket:* less risk, useful tool for Conti to learn for the beginning of their CVC, requires large team because of high number of investments
- *Large ticket:* more rights, more control about startups development, good starting point for Conti for a potential acquisition, manageable with smaller teams because lower number of investments