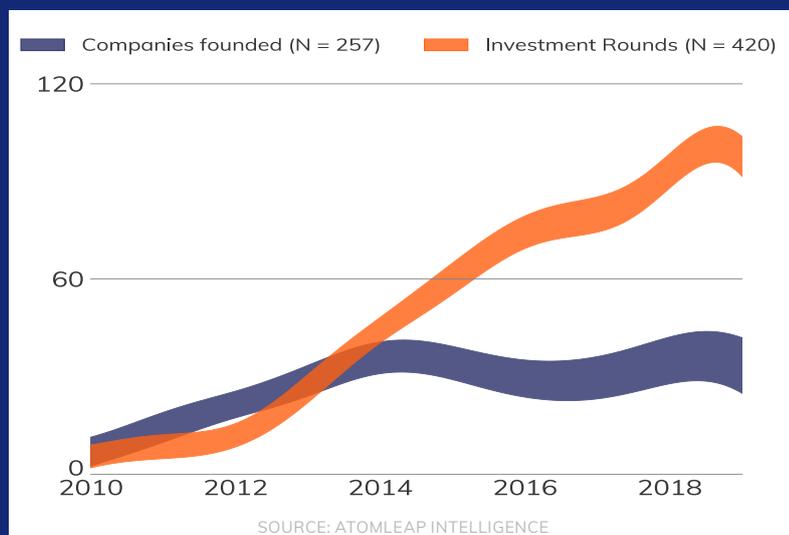




MACRO VIEW

MOBILITY & IOT

FIG. 1. FUNDING AND FOUNDING OF MOBILITY & IOT STARTUPS.



THIS MONTH'S UPDATE. While connected car solutions have lately been absent in trending news, the number of funding rounds and foundings for IoT startups in the mobility sector is still on the rise. Our data indicate a peak in funding in 2017, with 96 investment rounds, and will more than likely exceed this figure in 2018. The sum of startups launched in this sector also continues to grow, with 2016 being an exception. This upward trend reveals the relevance of connected car solutions, and indicates the potential for new products and services to be developed and introduced to the market.

VEHICLE DIAGNOSTICS BEYOND OBD

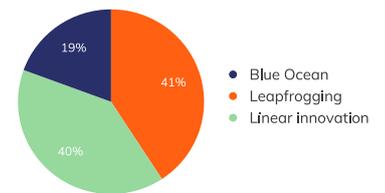


THIS MONTH'S FOCUS. Vehicle diagnostics are mainly done via the OBD port housed in every modern vehicle. Linear innovation has enabled remote access via connected OBD-dongles and remote monitoring for managing fleets. However, OBD data has limitations due to its underlying CAN (Controller Area Network) bus architecture and manufacturers' protocol adjustments. Two strategies have emerged to overcome these: 'leapfrogging' and 'blue ocean'. Leapfrogging startups focus on machine learning and alternative technologies — such as virtual sensors — to perform traditional OBD tasks. Blue ocean startups draw from (un)related fields such as IoT and data platforms to work towards future vehicle concepts such as autonomous EV shuttles.

LATEST INVESTMENT. In mid-November, the leapfrogging startup **LIGHTFOOT** closed a €3.6 million Series C round to grow its driver feedback, reward, and diagnostics platform.

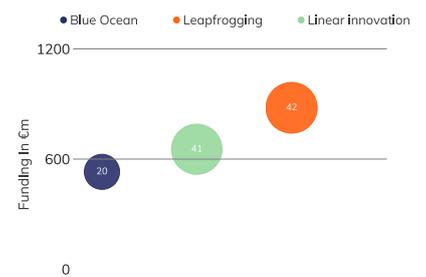
STARTUP ACTIVITIES. Simple OBD vehicle diagnostics enable remote monitoring and preventive maintenance reporting. Leapfrogging startups like **COMPREDICT** and **NEURON SOUNDWARE** use ML, virtual sensors, and data about drivers and the environment to detect and predict incidents, allowing close to real-time predictive maintenance. Blue ocean startups, meanwhile, focus on facilitating intermodal mobility within cities. Autonomous EV fleets require precise diagnostics to schedule rides, service, and charging sessions. Blue ocean funding, which historically trailed behind, overtook leapfrogging in 2018 proving market appetite.

FIG. 2. DISTRIBUTION OF STARTUPS BY CATEGORY



SOURCE: ATOMLEAP INTELLIGENCE (N=159)

FIG. 3. INVESTMENT AMOUNTS & NUMBER OF STARTUPS BY



SOURCE: ATOMLEAP INTELLIGENCE (N=159)

THE BIGGER PICTURE. Vehicle diagnostics are essential to all new mobility solutions — especially autonomous vehicles. For less error prone electric vehicles, however, maintenance alone will not last as a business model. Successful firms will offer other data-based services, like security, driving style improvements, and bespoke insurance products. More sensors also allow for more contextual and individual service offerings: marketing campaigns tailored to a driver's current mood, driving style, and location.



M I C R O V I E W

MOBILITY & IOT

CARFIT. The French-US American startup provides predictive maintenance through vibration analysis. Carfit combines noise, vibration, and harshness detection with AI to create a comprehensive library of vehicle vibration data.

COMPREDICT. Compredict is a multi-award winning startup for simple and fast, but precise automotive vehicle diagnostics, and is financed by the EXIST Startup Grant (pre-seed funding) and two Business Angels (seed) with an incoming round slated for 2019.

VULOG. The startup Vulog was founded in 2006; accordingly, it is one of the pioneers in car sharing technology to-date. In their last funding round received in August 2018, Vulog achieved a total of €28m in financing.

VEHICLE DIAGNOSTICS BEYOND OBD

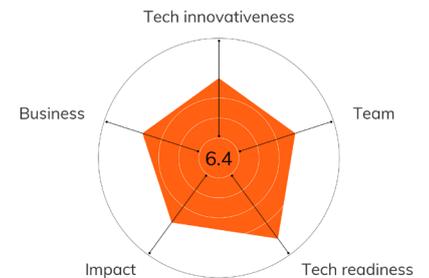
Carfit

2016 US

Parallel to their technical solution, they have created a platform which delivers customized lead generation to dealers and service providers.

SO WHAT? Compared to Compredict, this American startup could attain decent funding, if their most recent rounds which achieved a total of €4.2m is any indication.

SIMILAR TO **LIGHTFOOT, NEURON SOUNDWARE, AUGURY.**



SOURCE: ATOMLEAP INTELLIGENCE

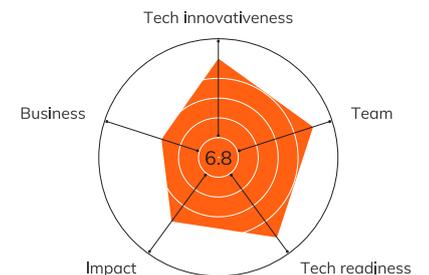
Compredict

2016 GERMANY

Compredict's technology enables a lifetime calculation, creates predictive maintenance reporting, and performs a meta-data analysis on the sum of the vehicle's parts.

SO WHAT? The embedded load and lifetime monitoring software creates a usage profile, which automakers and suppliers can access in order to create constructive reinforcements of used vehicle components, and to correct assumptions made during development.

SIMILAR TO **NEURON SOUNDWARE, SYNAPTIV.AI, MAUIT.IO.**



SOURCE: ATOMLEAP INTELLIGENCE

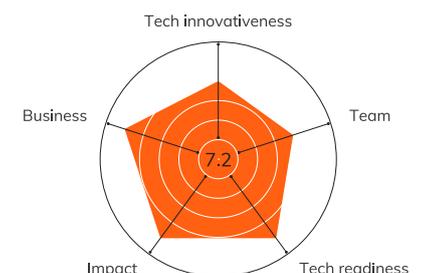
Vulog

2006 FRANCE

The company's proprietary hardware unit is integrated in its monitoring platform, and it works with legacy systems and existing systems within the vehicle. Vulog is able to access and control anything from telematics, access control, and vehicle status.

SO WHAT? This latter proprietary hardware unit enabled the gathering of data points from Vulog's inception, which has led to simplified vehicle diagnostics and predictive servicing.

SIMILAR TO **OMOOVE, SAVARI, XEE.**



SOURCE: ATOMLEAP INTELLIGENCE