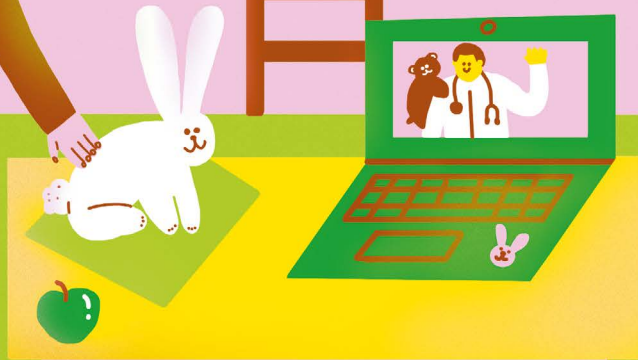
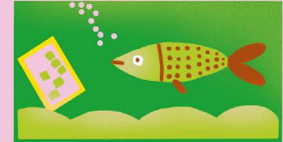


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Pet-tech on the rise

Leaving a paw print on tech's future



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Pet-tech on the rise

Leaving a paw print on tech's future

Pet-tech on the rise is a Sifted Intelligence report, sponsored by Purina Accelerator Lab. It explores how the European pet-tech market is growing as well as the challenges and opportunities facing innovative startups and investors in this sector.

This industry coverage would not be possible without the expert insights of those on the front lines of its innovation. Throughout the report we share insights and stories from selected operators and investors who are pushing through boundaries and building new markets.

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Making an impact

A message from Purina Accelerator Lab

In petcare, the earth has definitely moved under my feet. I grew up with seven dogs and my mother was constantly busy tending to them. It always seemed that one itched unreasonably while another destroyed whatever object they set eyes on.

Back then, my mom relied on the people around her to get through the day. But today, her helpers would more likely be powered by data and AI. She would have used digital services, on demand delivery or ecommerce to be more efficient and efficacious. The dogs would have been healthier and happier too, and most importantly, my mother would have had more peace of mind and time to spend on me!

Decades later, when I joined Purina to set up the Purina Accelerator Lab — which has a central mission to identify and support disruptive petcare

startups that can make a real difference to pets and their parents — I had no idea that my childhood experience would provide me with many insights needed in my job.

Real world impact is the most important marker of success. We recognised that European petcare startups face uphill challenges, from technical limitations to building market awareness. But there are also more systematic ones: pet startups are lagging compared to the US market, for example, in the number of companies and in VC funding.

So when we set up the 24-week accelerator, called Unleashed, I wondered how to best make it worthy of its namesake and enable exceptional things to happen. Our success would have to flow from Purina's strengths: our four R&D powerhouses around the globe, our pet colonies and our extensive geographical commercial footprint and expertise. With this, we believed we could support our cohorts to help them grow and address real pet parent pain points.

2020 was our first year and a chance to test this approach. We accelerated six amazing startups, each embraced by Purina experts who formed the team to work on a pre-determined and mutually agreed value exchange project, with strict timelines and funding. We put together the right people with a shared purpose and passion and let the magic bubble.

The results? Our startups were able to launch an ecommerce platform, test entry strategies into a new market, learn about the unique pet nutrition



Image: Kim Bill



Kathrin Burckhardt, Founder, Cat in a Flat / **Bruno Farinha**, Founder, Petable / **Giuseppe Scionti**, Founder and the Natu team



Rikke Rosenlund, Founder, BorrowMyDoggy / **Noora Keskievari**, Founder, OneMind Dogs / **Lou Cooperhouse**, Founder, BlueNalu Innovations

regulatory requirements in Europe, get consumer insights into a new category of food and even launch a B2B model with Purina's network.

For our part, Purina folks were exposed to spirited entrepreneurship which triggered an internal mindset shift and agile ways of working. The experience also opened them up to partnership opportunities for greater impact or greater speed.

“Purina folks were exposed to spirited entrepreneurship which triggered an internal mindset shift and agile ways of working”

With the success of our first cohort, we are taking applications for six more pet startups for the 2021 Unleashed cohort. These are important steps, but we must remember that there are over 500 pet startups in Europe and growing (as they should be in this pet-loving region). So again, I wondered how the Purina Accelerator Lab could make a meaningful impact on the wider sector.

The answer came to us in the form of a community network. So in 2020 we launched a curated Unleashed EMENA community to help pet startups network and find each other, and to get more visibility and eventually, funding from investors.

The community is already 200 strong and growing, and it's been amazing to watch how our members grow and support one another. While covid lockdown keeps us restricted to Zoom events, we cannot wait for more dynamic meetups when travel restrictions are lifted. Meanwhile we keep the information and insights flowing through the Unleashed pet-tech newsletter, talks, reports like this one for knowledge, to weigh and to consider and to inspire. We encourage startups in this sector to get involved. For information on how to join the community, visit unleashedbypurina.com or contact me.

I hope you enjoy this report.



KIM BILL
Head, Purina Accelerator Lab
Kim.bill@purina.nestle.com

Pet-tech market map

European startups are jumping into the growing pet sector. Here we list some of the companies leading the pack across the four most prominent pet markets.

VET TECH

FIRSTVET: digital veterinary clinic

LINKYVET: veterinary telemedicine solution, providing a response to the needs of veterinarians and customer expectations

PAWSQUAD: making professional veterinary advice more accessible to pet owners

PETABLE: mobile app for preventive animal healthcare

PIAVITA: precise invisible analytics of vital data

VET-AI: uses AI to support the health of animals

VETOCLOCK: telemedicine at the service of veterinary professionals

DEVICES

CANELIO: smart device that will transform the training of your dog into a mobile game

FURRYFIT: helps track the life and health of pets 24/7

KIPPY: GPS & activity monitor for dogs and cats

KYON: pet collar with 3D GPS technology and LED display for easy communication with your pet

PETCUBE: smart interactive pet camera for cats and dogs with built in vet chat

TRACTIVE: GPS-based pet tracking solution

VETEVO: uses technology to make caring for pets easy & intuitive

PET NUTRITION

AGRIPROTEIN: develops nutrient recycling processes and is working to replace fishmeal in aquaculture and feeds with insect-based protein

ALPHAPET VENTURES: digitises the premium pet market in Germany for the mainstream, selling multi-brand pet food and products via multichannel distribution

BARKYN: personalised monthly dog food subscription and 24/7 online vet care

BELLA AND DUKE: raw dog

food subscription service

BUTTERNUT BOX: delivers tailored dog meals based on variables such as breed, gender, age and weight

CRAZY DOG: online pet supplies shop brand

EPETWORLD: online marketplace with everything for your pets

JAPHY: French recipes for happy dogs

KATKIN: changes how parents feed cats by bringing to market fresh, personalised, and species-appropriate nutrition

NEXTPROTEIN: insect-based protein for animal feedstocks with a negligible carbon footprint, at a lower cost and equivalent nutritional value of traditional protein production

NOVAMEAT: develops the next generation of plant-based foods

PET FOOD UK: the company behind the Barking Heads, Meowing Heads and AATU brands

ROCKETO: convenient-RAW Organic Dog Food

TIENDANIMAL: biggest online pet supply store in Spain

ULTRA PREMIUM DIRECT: high-end food brand for dogs and cats, distributed online

YNSECT: farms insects to make high-quality, premium natural ingredients for aquaculture and pet nutrition

SERVICES

ANIMAL ID: analytics platform for manufacturers of pet products and animal owners

BORROWMYDOGGY: community where local dog lovers help take care of dogs for free

BOUGHT BY MANY: pet insurance with new features based on owner feedback

CAT IN A FLAT: cat loving, cat sitting community

HIPETS: all in one platform for pet parents

ITCH: personalised flea treatment for cats and dogs

ONEMIND DOGS: dog training method and scalable dog training business

PETMEDIX: development stage veterinary biopharmaceutical company

SANTEVET: dog insurance, cat insurance, pet mutual insurance

TAILWISE: platform that matches dog buyers and verified breeders

VIVADOGS: monthly subscription boxes with 5-6 products for dogs and cats: food, toys, snacks, etc

Source: Dealroom.co / Europeanstartups.co filtered by "pet" sector and analysed based on a combination of funding, employee count and recent activity.

A primer on pet-tech in Europe

With 75 million cats and 65 million dogs, Europeans love their pets. Around a quarter of households own at least one dog and around the same proportion own a cat.

This is a juicy business opportunity. The size of the pet products and services market nearly doubled from 2010 to 2019 (see chart). In the UK, pet care spending per capita is second highest in the world after the US. UK owners spend over £5.4bn a year on pet-related products and services like food, grooming, walking and veterinary care. France, Switzerland and Germany are the next biggest spenders on a per-person basis.

And just as important for the economy, the pet food sector generates 100,000 jobs within Europe, and

another 900,000 in related fields, according to the European Pet Food Federation.

Acquisitions spotlight

TAILS.COM: Nutritionally tailored dog food delivered to your doorstep

Acquired by Nestlé for £150m

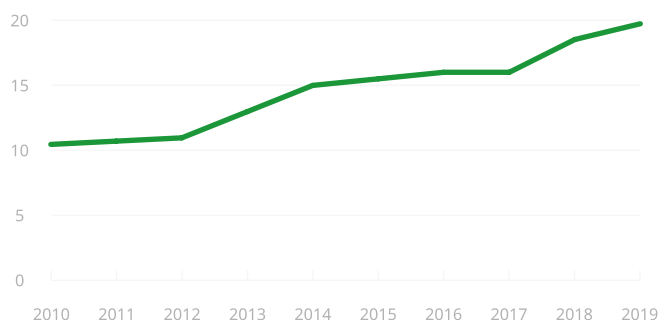
LILY'S KITCHEN: A natural and organic pet food company

Acquired by Nestlé Purina for £100m

NUTRECO: Global leader in animal nutrition, fish feed and processed meat products

Acquired by SHV Holdings for €2.7bn

The pandemic has prompted a surge in interest in pets. The Royal Society for the Prevention of Cruelty to Animals (RSPCA) reported a 600% increase in visits to puppy fostering pages last year and Battersea Dogs and Cat Home registered over a 100% increase in rehoming of dogs and cats compared with the same period last year. Pets even made it into lockdown policies as a legitimate reason to leave the home — although one Spanish chancer was fined for creative interpretation of the law when he was caught walking his fish bowl.



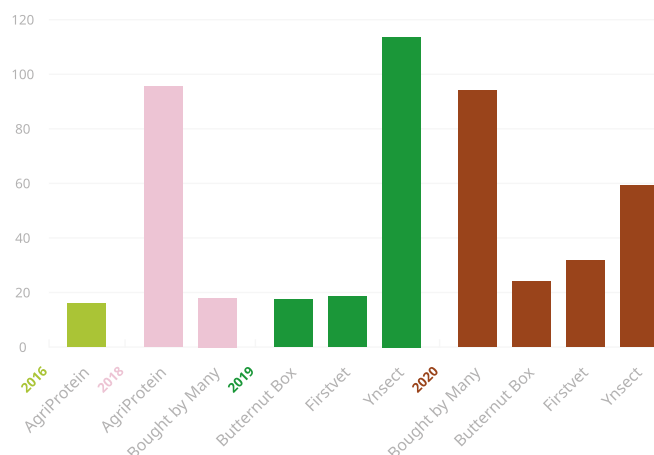
Value (€m) of pet related products and services in Europe, 2010-2019

Source: Statista

European startups are seizing the opportunity, applying the power of software and hardware to solve the many hassles and stresses of pet ownership. They are adapting the digital conveniences of the human economy, from on-demand Uber-style services to telemedicine and wearable tech like activity monitors, to the animal kingdom, where owners are clearly keen to spend lavishly on their furry friends.

“Pet owners are very connected with their pets and willing to spend thousands of euros a year, so this is definitely an opportunity,” says Francesco Moro, an analyst at Italian venture capital firm Boost Heroes, which is watching this space.

Andre Jordão, founder of Portuguese home delivery and vet care startup Barkyn, recalls little investor appetite in 2017 when his company was founded but says that this is changing. “Now, we can see more and more VCs looking to make their bets,” he says, adding that the majority of venture capitalists in the business-to-consumer (B2C) space are “at least curious about pet-tech now”.



Top 10 pet-tech funding rounds (€m), 2016-2021 (YTD)

Source: Dealroom.co / Europeanstartups.co.
YTD data is accurate as of March 2021

But make no mistake, this is a hard business. The market for pet health is a fraction of the size of the human one, with no public subsidy. Hardware makers face challenges around how to improve battery performance, as well as how to establish recurring revenue models and to encourage long-term use.

“Looking back ten years, there were so few pet tech actors and now there are hundreds”

In the pet services space, any half-savvy startup can build a functional platform, which has led to overcrowding in the market. “Looking back ten years, there were so few pet-tech actors and now there are hundreds popping up from everywhere, doing everything and nothing; from dog-sitting agencies to telemedicine platforms,” says David Prien, chief executive at FirstVet, a Swedish startup offering on-demand veterinary advice. “They are all driven by these macro factors like people’s increasingly active pet involvement and their willingness to pay.”

But few are delivering at scale, with many still in the early stages. “We’ll see a huge rise in the number of initiatives, and it will be interesting to see who comes out the other end,” says Prien. “I don’t think all the models support the number of actors within them.”

We have been here before. Pets.com was one of the iconic flops of the dotcom boom. Today, US pet-tech giants Wag and Rover, which are like Ubers for dog walking, have been accused of allowing pets to go missing and even die in their care.

These challenges are not unique to pet-tech, of course, but apply to many fast-scaling startups trying to get a handle on the unpredictable dynamics of rapid growth. They offer a helpful lesson to Europe’s ‘fast followers’, who can build safer companies and sound governance models in user-driven platforms as a result. Founders on the continent already demonstrate a strong focus on pet welfare. Others are positioned in sectors like diagnostics, wearables and meal plans, where scaling dynamics depend on their own capabilities in logistics, automation and R&D, with fewer outside risks.

How will Europe’s pet-tech market dynamics play out? Which segments will settle on the right business models? What problems are entrepreneurs focusing on and how are they leveraging software, hardware and advanced analytics to do so? We look at the entrepreneurs sniffing out the prize in European pet-tech.

Pet food for thought

- European households that own a pet: 85m
- Value of pet-related services and products: €19.7bn per year
- Annual sales of pet food products: 8.5bn tons
- Annual turnover of pet food products: €21bn
- Annual growth rate of the pet food industry: 2.6%
- Estimated pet-tech market size: €4.4bn
- Estimated pet wearables market size: €1.3bn
- Venture Capital investment in European pet-tech since 2015: €690m
- Acquisitions/Buyouts since 2015: 35
- Total vets in Europe: 263,199
- Vets per 1000 of population: 0.35

Source: European Pet Food Industry (FEDIAF), Dealroom.co / Europeanstartups.co, Federation of Veterinarians in Europe (FVE)

Pet platforms

The rate of pet ownership is increasing, driven partly by rising interest among millennials who are delaying having children. The pandemic accelerated the trend as the isolated sought companionship. European startups were already positioned in the market, bringing digital platforms and services from direct-to-consumer home meals and health tech to matchmaking services for dog walkers and dog sitters. Their challenge now is to compete in an increasingly crowded market, and uphold high standards in a sensitive sector.



Back in the early 2010s, as the first generation of sharing and on-demand economy platforms sprung up in areas like travel and urban mobility, entrepreneurs quickly realised that the same models could be applied to pet ownership. Whether it be finding someone to take care of your pet when you are out of town or on-demand veterinary advice, pet ownership is full of all kinds of friction that software can smooth out.

Nicholas Latham, cofounder of Netherlands-based dog sitting platform Petbnb, saw an opportunity to adapt the Airbnb model of using verified identity and user reviews to encourage strangers to engage in a high-trust transaction. In Petbnb's case, this

was a solution to a well-known problem: finding someone reliable to walk or temporarily take care of your pet if you are busy or travelling. Previously, owners would look to friends, family or, least desirable, kennels, which had a mixed reputation for quality of care, says Latham.

Finding dog walkers was similarly fraught. Some take on large groups of dogs to maximise income and so it is hard to know if yours is getting a decent stretch, or instead stuck in the back of a van while the walker collects half a dozen others. Petbnb is taking this a step further, developing algorithms to predict the most

appropriate carer by matching experience and home circumstances, like whether they have children, to different breeds and ages of dog. Other startups are helping owners take their animals with them; Italy's Trip for Dog helps users plan holidays, tours and 'experiences' at dog-friendly destinations across Italy.

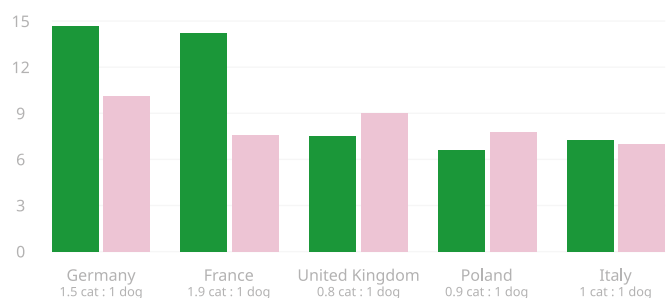
A second pet-tech adoption is direct-to-consumer (DTC) commerce, which helps owners reduce hassle through regular food delivery using user-friendly digital platforms and frictionless payment systems,

similar to human meal startups like Mindful Chef. European startups include Porto-based Barkyn, London's WufWuf and Spain's PatasBox, offering home-delivered food, treats and toys. "The trend toward health meal plans, subscriptions and deliveries is also coming to the pet market," says Boost Heroes' Moro. "This is more scalable than other segments of the pet-tech services [sector]."



Image: Barkyn

Barkyn founder Andre Jordão says that to succeed in the DTC space companies need a high level of personalisation and authenticity because of the emotional connection people have with their pets, which sets it apart from conventional e-commerce. "That is why we spend a lot of time wowing our customers with attention to detail," he says, citing examples like adding the pet's name to the delivery box and adapting the contents to the life stage, size and breed. "We are trying to offer a much more personalised and beautiful experience, like something at a level of serving your kids". Barkyn's offering includes a 24/7 on-demand vet consultation service and a newly launched smart box called Barkyn Home that stores food and learns your dog's eating habits to refill automatically, a sign of the shift towards multi-service bundles for pet owners.



Dogs and cats in the top five European countries by total (m), 2019
Source: European Pet Food Industry 2020 Report

Petbnb

THE ELEVATOR PITCH: Database of vetted sitters and walkers for travelling pet-owners

MARKET: Pet-care

TOTAL FUNDING: £200k

YEAR FOUNDED: 2016

USERS: 125,000 users, 1000+ dog sitters in 700+ areas

FUN FACT: While currently focused on dogs that doesn't stop people sending booking requests for other animals, including one for three hens, with fresh eggs as part of the payment.

SCALING SAFELY

Jordão's focus on differentiation and personalisation captures an important feature of the pet services

Barkyn

THE ELEVATOR PITCH:

Personalised monthly dog food subscription and 24/7 online vet care

MARKET: Pet-nutrition

TOTAL FUNDING: €9.3m

YEAR FOUNDED: 2017

USERS: 40,000+

FUN FACT: Barkyn offers its team members who adopt a dog a week of "pet parental leave".

market: the need for high-quality service and governance. People look at their pets as extensions of their family, he says. This raises the stakes for pet services companies if they get it wrong.

In the US, two hyper-scaler pet-tech brands learned this the hard way. Wag, a dog walking startup that raised \$300m from Softbank's Vision Fund in 2018, struggled with governance on its platform, with allegations that dogs had been abused or died while in its care and a growing

problem of 'runaway dogs'. Softbank stepped away from the company in late 2019.

Rover, a rival service that raised an impressive \$155m, had scaling troubles of its own. One user launched a GoFundMe campaign to take legal action after her dachshund was killed by another dog in the care of a sitter. Rover was also exposed to a collapse in demand because of the pandemic, recently laying off more than 40% of its staff.

Some investors were hitherto reluctant to make bets on European pet services startups because of the funding funnelled into US players, according to Latham at Petbnb. But he believes European

companies have several advantages, beyond the bad press that Wag and Rover have experienced. "American companies focusing on their own large market are not used to Europe where there are so many differences in terms of language and localisation," he says. "It's not like that in the US, California to Texas, it doesn't matter." In contrast, European startups, because their home markets are small in comparison, are thinking about how to expand across the continent from the start, he adds.

But startups still need to figure out how to grow sustainably. Pet services have a retention challenge: once owners find a trusted local walker or sitter, for instance, they may decide to take the transaction off of a platform like Petbnb (this is only a marginal issue for Airbnb, given that people are continually wanting to visit new locations). The company has tackled this issue through a 'reverse fee' ratchet that pays sitters a higher share the more money they earn on the platform.

"In comparison to other sectors, there do not seem to be distinctive leaders in the pet-tech market"

Francesco Moro at Boost Heroes thinks that the pet-market as a whole is still nascent in terms of dominant leaders that can scale. "In comparison to other sectors, there do not seem to be distinctive leaders in the pet-tech market," he says. "It seems a highly fragmented market with a lot of small players. It is also very national based and rarely internationalised."



Total funding (€m) into PetTech startups, 2015-2020

Source: Dealroom.co / Europeanstartups.co

PET E-COMMERCE: THE DARK SIDE OF DIGITAL

Rising interest in pet adoption combined with the ease of online transaction is creating a wider risk for the sector: a 'Wild West' of animal purchasing, as unethical breeders use online platforms to sell animals from pet farms. The conditions are dystopian, with females often kept as "reproductive slaves", says Beverley Cuddy, dog champion at UK-based ethical

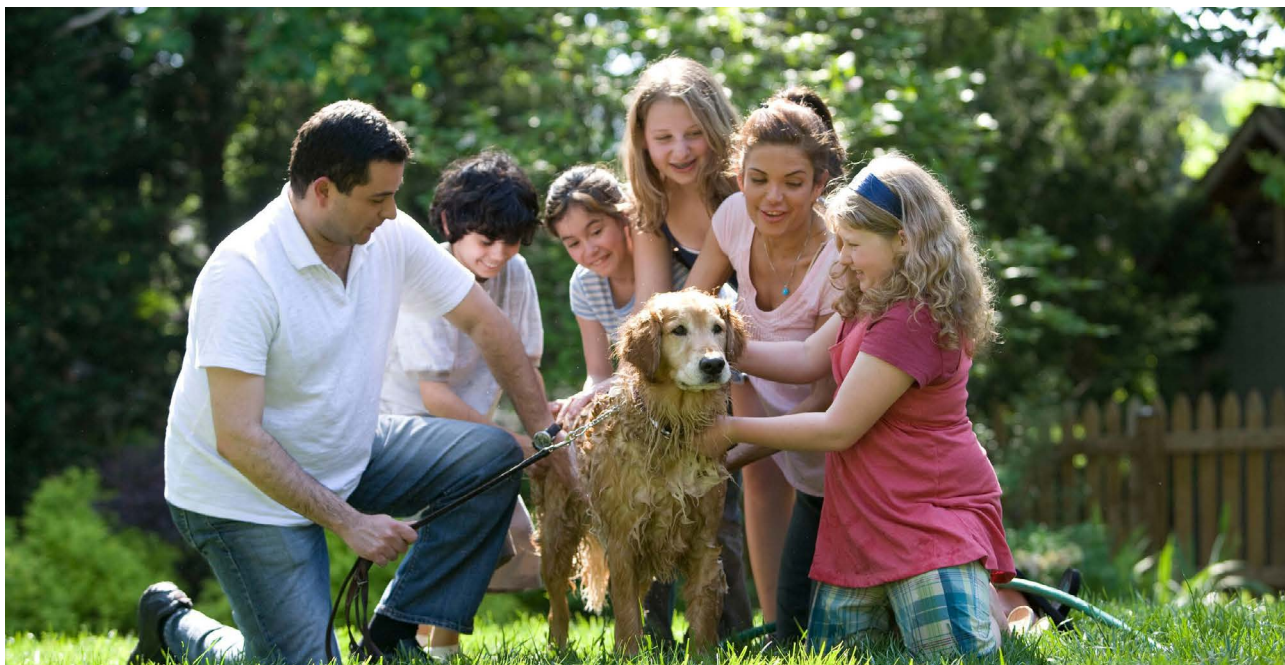


Image: Tailwise

breeding website Tailwise. Unethical breeders do not properly feed and train young animals to ensure they are healthy, safe and ready for adoption.

The nefarious world of ‘puppy farms’ was around long before the pandemic. In early 2020, the UK passed a legal reform, ‘Lucy’s Law’, banning the commercial third-party sale of pets. But a surge in interest during lockdown led to an increase in breeders selling directly to consumers on the internet. “There is so much money to be made that people have even been importing fertility drugs to increase the number of litters per year,” Cuddy says. Some speculators are even ‘flipping’ pets — buying reasonably priced ones online and reselling them at a profit.

“At the moment, people take more care buying their eggs than their dogs”

Cuddy says there is limited consumer awareness about ‘pet provenance’, including among millennials, a fast-growing segment of the pet purchase market. “We have never had more vegetarians and vegans,

yet this new generation has never bought more dogs born into breeding slavery,” she says. “At the moment, people take more care buying their eggs than their dogs.”

Rather than taking the usual digital disruptor approach of removing frictions, Tailwise is bringing them back to both sides of the transaction. Through detailed interviews, they make sure breeders are upholding standards, from healthcare to rearing conditions and pet training levels. They also make sure that wannabe owners understand the commitment they are taking on, which has been especially important in the Covid-era given the risk that buyers will lose interest once the crisis ends and they have other sources of entertainment.

As the pandemic subsidies in Europe, pet-tech services will be well positioned to capitalise on an ever-growing demand for animals. Segments that have seen a decline, such as dog walking, will get back into a more profitable mode once lockdowns finally end. The challenge will be finding a way to scale, especially across markets, without compromising quality. Also expect consolidation and a thinning of the pack as the current over supply of pet-tech startups matures into a smaller set of leaders.

Vet-tech to the rescue?

Home testing kits, artificial intelligence-based diagnostics and enterprise software for vet clinics are among the 'vet-tech' innovations emerging from European startups. They can help vets keep up with rising consumer demand and empower consumers to take control of their pets' health. But not all of the traditional vet market is open to disruption.



The vet industry has been, until recently, slow to embrace digital technologies. “The vet either had a time slot free or they did not. You book, go in and you pay,” says David Prien, founder of FirstVet, a telemedicine platform connecting owners and vets. “It was a very basic customer journey.”

But inevitably, as digital health startups like Babylon brought telemedicine to human patients,

entrepreneurs saw a similar opportunity in pet care. “It was clear that digital health and telemedicine startups were driving a behavioural shift to online consultations,” recalls Prien.

Arguably, the pet market is well-suited to telemedicine because of a relative shortage of vets that has arisen from the surge in pet ownership. Rising penetration of pet insurance also provides the financial mechanisms to encourage owners to take more active control of their pets’

health (as a fully private market, cost is a common reason not to act until a problem is acute).

Some vet-tech startups have emerged as an initial layer to triage inquiries and advise owners whether they need to take action. Thankfully, many pet health complaints can be diagnosed visually. Around one-

FirstVet

THE ELEVATOR PITCH:

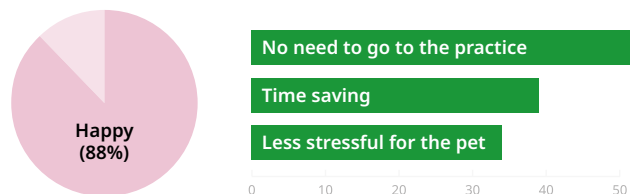
A digital veterinary clinic providing telemedicine vet care

MARKET: Vet-tech

TOTAL FUNDING: €55.8m

YEAR FOUNDED: 2016

FUN FACT: FirstVet has helped a surprising amount of goldfish, several have been referred for x-rays



LEFT: What was your experience of a vet teleconsultation?

RIGHT: Top three perceived benefits of teleconsultations (% of respondents)

Source: Dechra, July 2020 Survey

third of in-practice vet consultations are linked to skin conditions, according Paul Hallett, cofounder of Leeds-based Vet-AI, creator of the app-based diagnostic tool Joii. “The great thing about skin is it’s visual,” he says. It is easy for us to examine online and identify problems digitally.”

Software and AI-based diagnostics can even allow owners to perform at-home tests that were once reserved for vets. Austria-based Pezz Life sells direct-to-consumer (DTC) testing kits that can pick up conditions like urinary infections, kidney disease and diabetes. The owner uses a dipstick to collect a urine sample and scans it via an AI-powered diagnostic app. “We enable pet parents to perform tests like a specialist,” says cofounder Markus Zengerer, adding that the goal is for owners to regularly test their pets to spot problems before they become symptomatic or dangerous, heralding a new era of ‘preventive’ pet-care.

“We are trying to empower vets to get the work-life balance right because they are overworked and under a huge amount of pressure”

FRENEMIES?

Startups say that vets can benefit from the automation and telemedicine tools that are coming to market. “We are trying to empower vets to get the work-life balance right because they are overworked

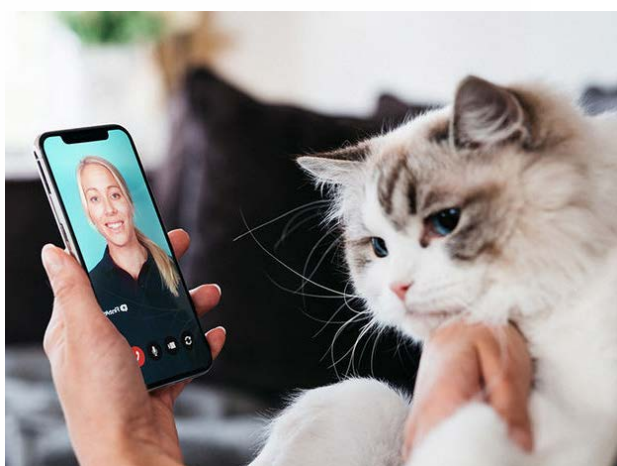


Image: FirstVet

and under a huge amount of pressure,” says Vet-AI’s Hallett. The profession has very high suicide rates, in part because of the distressing nature of the work. Euthanasia is a common duty, often as a result of

owners’ inability to pay for surgery. Burnout is another issue.

Vet-AI

THE ELEVATOR PITCH:

Uses AI to support accessible, affordable animal healthcare

MARKET: Vet-tech

TOTAL FUNDING: €5m

YEAR FOUNDED: 2018

USERS: 150k pets

FUN FACT: Vet-AI is the first company in the world to use AI to judge a pet model competition. A dog named Barney won.

“We encourage vets to take time and space outside of work in an Uber-type model where they can choose the hours of work,” says Hallett.

Far from seeing the rise of automated vet apps as a threat to their livelihood, Hallett says Vet-AI has a waiting list of vets looking to join its platform, “which shows a desperation to move out of the status quo”. Vets can also benefit from enterprise

software, which can reduce the administrative burden of running a clinic. European startups in this space include VetCloud, a practice management app which eases the process of bookings, reminders and payments.



On what type(s) of products or services for your pet(s) do you think you will spend more in the coming 6 months? (% of respondents)

Source: Dechra, July 2020 Covid-19 Survey. Figures are averaged across the five European countries included.



Image: Pezz Life team

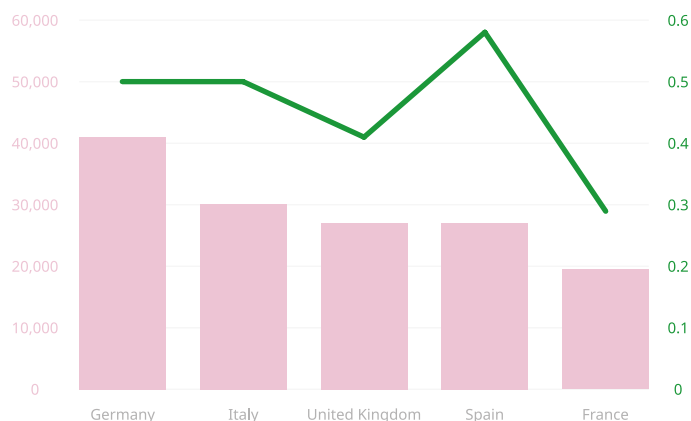
But as with any tech disruption in an age-old industry, the process is not always straightforward. One expert, who requested anonymity, says some corporate vet players that own a large share of clinics are trying to prevent startups from acquiring approval for services like diagnostics based on their financial interest rather than a concern about animal — or vet — welfare.

In fact the expert warns Europe risks lagging behind global leaders in allowing veterinary telemedicine. For example, Australia allows the purchase of parasiticides over the counter, which require a

How has covid-19 impacted pet ownership in the UK?

- 21% of all households have either welcomed a new pet or plan to do so
- 35% of young adults (age 24-35) have already embarked on lives as new pet owners, or are planning to add a pet to their families
- Dogs were the most popular (57%) with cats as runners up (38%) and small furies in third (8%).
- Prices for puppies skyrocketed by 134% from £817 on average to £1912, comparing 2019 to September 2020

Source: Pet Food Manufacturers’ Association Covid-19 Survey



TOTAL and PER CAPITA vets in the top 5 European countries, 2019

Source: Federation of Veterinarians in Europe (FVE) survey of the veterinary profession in Europe, 2018-2019

prescription in the UK. The UK's veterinary union also launched a petition in 2019 to block veterinary telemedicine, which they argued compromised safety, risked breaking down the vet-client relationship and would negatively affect its members' livelihoods. But others have argued that veterinary telemedicine provides positive results especially in resource-scarce settings.

Ontario, Canada is another more progressive environment for comparison. It approved veterinary telemedicine two years ago, and has allowed remote prescription since March. It is also creating

a committee that combines regulators and non-traditional start-ups. Seventeen US states also now permit remote prescribing online.

There are practical challenges to market penetration too. In Austria and Germany, Pezz Life's home markets, the vet community comprises around 15,000 independent providers. "Marketing tools like emails or newsletters don't work well," says Zengerer. "You have to talk to them in person, but there are so many." They tend not to buy diagnostic kits in bulk because of lack of storage space, he adds.

While Pezz Life did make headway in specific locales — including signing up half of Vienna's vets in three months by meeting with every vet personally — Covid-19 has meant that the company has little way of interacting with them. As a result, it's since shifted to a direct-to-consumer model and has found pet owners receptive to a subscription-based approach.

The challenges facing vet tech startups are similar in nature to those in the digital health space. Mainly, a combination of risk aversion or conservatism among end-clients and, in some cases, hostility from incumbents who profit from the status quo. But there is clearly scope for a win-win outcome if software and AI-powered services can help to triage health issues and reduce the administration involved in running a business, allowing vets to focus on caring for the animals they love when they are in need.

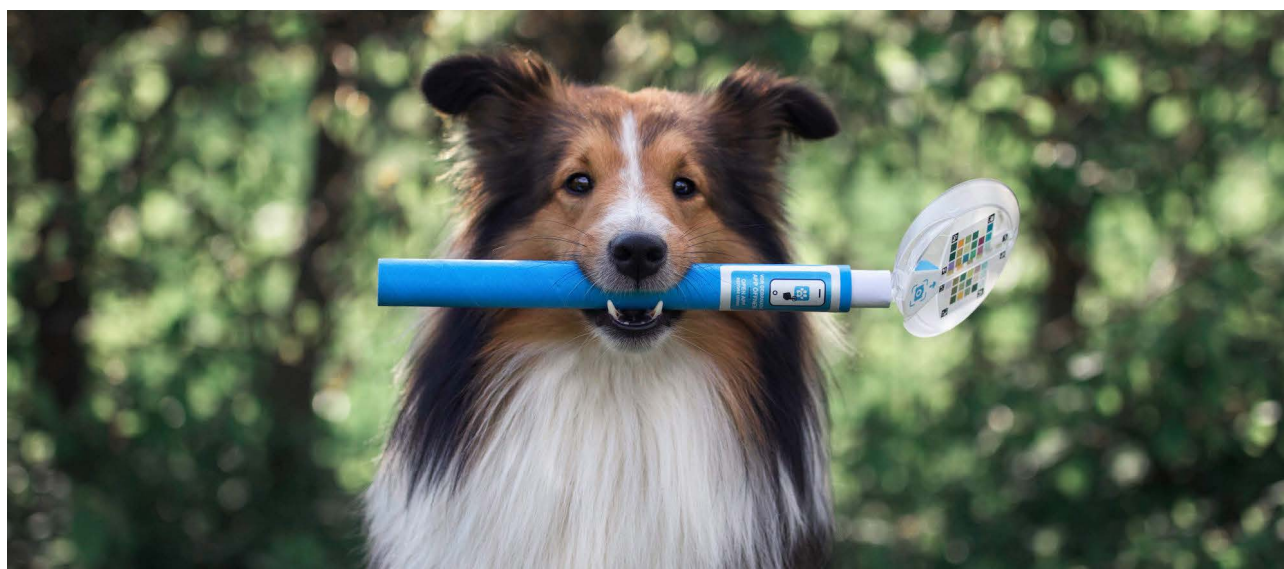


Image: Pezz Life

Wearables and IoT devices

Pet owners, who are increasingly tech-savvy millennials and the older cohort of Gen Z, want data about their pets' activities just like they can get for themselves. From play and exercise to eating habits, GPS and smart toys, a number of startups are emerging ready to capture that data and turn it into actionable insights. The European market is yet to be dominated by any key players, with startups still struggling with technical limitations and market awareness, but the first to break those barriers will find a demanding customer base ready to pounce.



As a younger generation of renters and homeowners adopt pets, use of connected devices is rapidly normalising. The logic around pet wearables is straightforward: just as we might use a fitness tracker to get motivation to stay healthy, an owner can use a wearable tracker to monitor and influence their pet's wellbeing.

IoT devices entered the market as novelties, but have already attracted thousands of entirely serious buyers. Just like the pets they serve, connected devices come in a range of size and shapes, and cater to a variety of needs.

Leading the pack on wearable technology are collar-worn trackers that monitor activity levels and sync with the owner's phone. GPS tracking also features heavily, as owners are keen to know exactly where their pets run off to when left to roam. More than simple curiosity, this information in real-time can be important for owners worried about their pet's whereabouts.

PitPat

THE ELEVATOR PITCH: Monitor your dog's activity every day for a year without recharging the battery

MARKET: Pet wearables

TOTAL FUNDING: £5.8m

YEAR FOUNDED: 2014

USERS: 100,000+

FUN FACT: PitPat data showed an 11% increase in play during the first few weeks of lockdown.

The trouble is combining the two leading areas of the market — activity and location — into one device, as battery technology simply isn't advanced enough yet. UK startup PitPat produces a tracker with a year-long battery life that monitors a dog's activity levels. "We've been through several iterations, and we're constantly fighting battery life," says chief executive Andrew Nowell, adding that the boast of a year's power is critical to the product's success, but comes

at the cost of other energy-consuming features, including GPS.

On the other side of the coin, Austrian startup Tractive is now on the fourth version of its location tracker aimed at dogs, with a lighter alternative for cats. GPS is at the core of the product. Founder Michael Hurnaus says the challenge with monitoring devices such as his is that when they run out of power, people often don't recharge them, or use them again. "It's

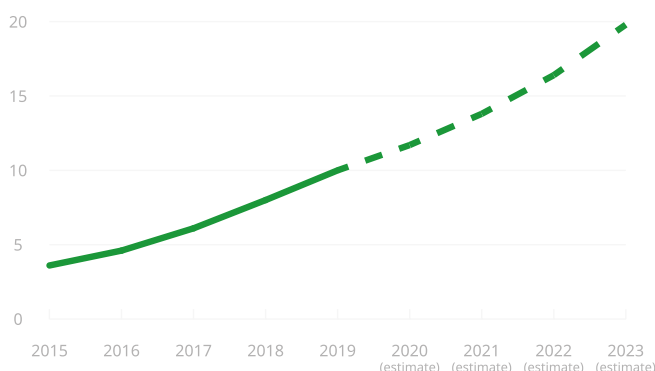


Image: PitPat

like when you use your Fitbit for five weeks, six weeks, 10 weeks but at some point you say, 'you know what, forget it, just forget the charges'," he says.

PitPat's Nowell echos this. "The key thing is to have that battery life for the year," he says. "Otherwise, you lose things like sleep data, people take off the collar, they don't bother putting it back on, they fall out of that rhythm — and always collecting data is key."

Both agree that a perfect fusion of the two devices — GPS tracking and activity monitoring — is what the market is waiting for. And as this appears to be the aim of each company in isolation, this showcases neatly where the wearables sector is heading. But to get there, progress in battery technology is needed.



Total number of IoT device connections (bn), 2015-2023

Source: IoT Analytics - Cellular IoT & LPWA Connectivity Market Tracker 2010-25. Data for 2020 onwards is forecasted.

LEARNING NEW TRICKS

From Nowell's point of view, the end goal may well be to integrate power-hungry features using advanced battery tech when it becomes available. Now, though, smaller improvements are the order of the day.

Wearable manufacturers are bringing in options like advice on feeding based on activity and scratch detection. But the goal with these health features isn't diagnosis, at most it's to be able to recommend when pets need a visit to a vet.

“Iterative features and insights are crucial to stand out in an increasingly crowded market”

These iterative features and insights are crucial to stand out in an increasingly crowded market. Even Tractive's Hurnaus acknowledges that pure activity monitoring is “interesting, but not super actionable, at least from what you see right now”.



Image: PetCube

Of course wearables aren't the only items in the smart device market collecting and using data. There are a host of miscellaneous connected and smart devices aimed at pet owners, from app-linked feeding bowls to smart toys and drinking fountains.

Here, too, there are startups making names for themselves, not least Petcube, which makes smart home cameras for pet owners. Its cameras can point lasers to engage cats in play, or dispense treats to let dogs feel rewarded for calm behaviour, for example.

Andrey Klen, cofounder and chief marketing officer, says that the interactive element is a key selling point that has allowed it to stand out in the crowded home camera market. “It's really hard to compete with the Amazons and others on producing cheap cameras without that edge,” he says.

HOW MUCH IS THAT DEVICE IN THE WINDOW?

Market awareness remains a growth hurdle. As Hurnaus puts it, “the market with by far the biggest penetration of those kinds of devices in Europe is Germany, and nine out of 10 dog owners in Germany don't even know that there are GPS trackers for cats and dogs”. If people don't know a product category even exists, they're going to be hard to sell to.

Klen sees the awareness problem as two-fold, since even established users require significant persuasion to sign up for a subscription plan that could eventually allow them to access better features. For example, long-term monitoring can allow the tech to coach neural networks in more advanced ways, such as flagging suspicious or negative behaviour. In Petcube's case, these could include improved AI to let owners know when negative behaviours start — such as tearing up mail and jumping on off-limits furniture.

Market growth is further challenged by the cost of spreading operations across Europe's fragmented landscape. “Scaling distribution to different European countries comes with costs of launching on all the local Amazons, adjusting hardware (chargers), shipping and keeping the inventory there, localising packaging, support, and the software,” says Klen.

Hurnaas adds that his challenges also include languages, currencies, different ways of distribution and different cultures in different countries. He says he aimed for Tractive to be an international

company from day one, which has required his team to localise with the first version of the app and have a retail setup for every country in Europe. This tactic is costly, and can spread operation teams thin.

Petcube

THE ELEVATOR PITCH:
Smart interactive home cameras and services for modern pet parents

MARKET: Pet cameras

TOTAL FUNDING: €21m

YEAR FOUNDED: 2012

Another part of the problem is the cost of the device itself. In a market where giants like Amazon are constantly lowering the price of entry on standard

smart home devices, specialist options can't afford to be vastly more expensive than the easy alternative. Klen is clear that bringing prices down is a key goal for Petcube as it scales up.

If the hardware is accelerating and being iterated upon in both wearables and the smart device spheres of pet-tech, it stands to reason that investors are perking their ears up as well.

Cyril Ebersweiler, a general partner at VC firm SOSV, confirms that investors are increasingly interested in the pet device market, seeking hardware that has the greatest value to pet owners and shows the greatest potential for long-term use. However, "while there is definitely a humongous market in the making, investors are typically only investing if a company can reach a billion dollars in annual sales", he says. "This is extremely difficult to achieve."

"Investors are typically only investing if a company can reach a billion dollars in annual sales; this is extremely difficult to achieve"

Ebersweiler adds that investors are closely looking at subscription revenue when deciding whether to invest. "In terms of hardware startups, we are looking

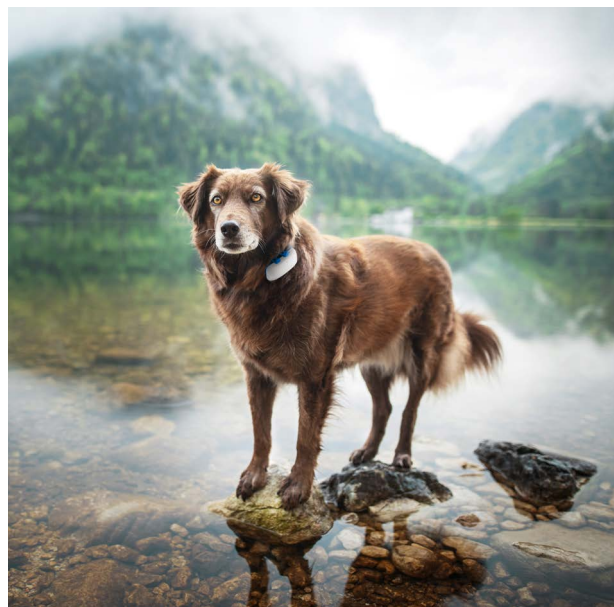


Image: Tractive

for ways the company will be able to charge for recurring revenues on a monthly or yearly basis."

Equally, Ebersweiler sees product quality as key to any pet device startup's quest for investment. "Building a brand is as expensive as ever, not to mention driving demand or having to cut into profits by using a distributor or a retailer," he says. "Can you build a product which trumps all those challenges?"

Those challenges can easily be looked on as opportunities, though, for a startup that can solve them, and Ebersweiler's convictions about a future "humongous market" makes it clear that VCs know there's a lot of value to be found. "I think there is a tremendous opportunity for someone to build the 'Xiaomi of pet-tech' — an ecosystem based on a strong online distribution which benefits all its contributors," he says.

Although these challenges to market awareness and investment may paint a picture of a sector facing a battle to capitalise on consumer interest, there's growing evidence that successful products will find consumers. Tractive has sold over half a million of its trackers, while PitPat's low price point has seen it make strides in the eyes of insurers, some of whom are considering providing units to dog owners as part of their policies.

The future of pet- tech

We asked the experts we interviewed where they think the pet-tech market will funnel its innovative energy next and which aspects of the industry are most important to watch.



The pet-tech sector is driven by a few key trends. Most significantly, pet ownership is on the rise, generally because of ageing millennials and more explosively because of the Covid-19 lockdown. Secondly, technology is continuing its exponential growth in capability and design, allowing startups to create ever-smarter tools that can inform owners' and vets' decision-making.

As new players crowd the market, looking to capitalise on the growth potential, pet-tech startups are working tirelessly to push to the head of the pack. According to the experts we interviewed, these are the trends and technical advances to look out for.

Advanced R&D

"We will bring in strict research protocols like you see in clinical medicine. Artificial intelligence in vet care is the future, and for us it's 12 months away"

Paul Hallett
Cofounder, Vet-AI



Preventive medicine

"We see a trend towards preventive healthcare services. It takes a lot more effort to convince people to take regular checkups instead of constantly treating symptoms. Our goal is to educate and create awareness and we see the market is going that way"

Markus Zenger
Cofounder, Pezz Life



Post-Covid-19 service demand surge

"People miss the social aspect of the office and, after lockdown, they will want to return to the office and need flexibility. Those with newly acquired pets will be looking for more ways of making sure their pet is well cared for. The challenge is making sure you're still afloat when that time comes around"

Nicholas Latham
Co-founder, Petbnb



Interspecies communication

"The ultimate frontier will be on the communication between owner and animal, although there might be more pressing needs for computer interactions than reading the minds of our dogs"

Cyril Ebersweiler
General partner, SOSV



Advanced hardware

"In the utopian future, it's an implant with GPS. But that is the dream. We're not going to be able to have that in the next five years. It is going to miniaturise, though, to the point where a nice quality, fitted device will work"

Andrew Nowell
Chief executive, PitPat



Advanced outcomes

"There is just one key word that really matters: wellness. The future of the pet industry is wellness; it's basically using technology to improve pets lives, and making it easier to care for them"

Andrey Klen
Co-founder, Petcube



Actionable insight

"We will very strongly focus on — and already have a team of seven or eight data scientists right now — activity monitoring data, and really making smart suggestions based on what we see there"

Michael Hurnaus
Founder, Tractive



Scalable models

"The trend toward healthy meal plans, subscriptions and deliveries is coming to the pet market. These are more scalable than other segments of the pet-tech services sector"

Francesco Moro
Analyst, Boost Heroes



We would like to thank the following people for contributing their time and insights to the report:

Beverley Cuddy, dog champion, Tailwise

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Francesco Moro, analyst, Boost Heroes

Nicholas Latham, cofounder, Petbnb

Andrew Nowell, chief executive, PitPat

David Prien, founder, FirstVet

Markus Zenger, cofounder, Pezz Life

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UNLEASHED

Powered by  **PURINA** Accelerator Lab

Unleashed is the first EMENA (Europe, Middle East, North Africa) pet care specific accelerator programme launched by the Purina Accelerator Lab. We aim to provide advanced nutrition, health and wellness services as well as new digital solutions to pets and their parents.

Nestlé Purina PetCare believes that pets and people are better together. To that end, innovation is at the heart of our DNA. Every day, 500 scientists including veterinarians, nutritionists, animal behaviourists, microbiologists, nutritional biochemists and immunologists work in our four R&D centres around the world to advance science in the understanding of pet nutrition and behaviour.

Unleashed leverages that deep pet, nutrition and category understanding, as well as Purina's experience and commercial capabilities to help grow innovative start-ups in the petcare sector. Its mission is to identify and support startups that are integrating technology into petcare products and services, as well as offering capabilities, products and/or services that can create value and make a difference to pets and their parents.

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