

# Billionaire Ambitions Report 2022



Innovation and impact

# A few words about our research

This is the eighth of our reports covering billionaires, focusing on their wealth and ambitions during an era of historic wealth generation, business innovation and impact philanthropy. For the first time, we have spoken to UBS's billionaire clients for this report, canvassing 50 of them for their views on how to approach global challenges in a two-stage exercise, including both a survey and questions at a UBS event. UBS Evidence Lab also gathered information about billionaire patent filings relating to smart agriculture. Separately, we have tracked the wealth of more than 2,500 billionaires from 75 markets in the Americas, EMEA and APAC. The results of our research have been analyzed by UBS subject matter experts, who have unique insights into how wealthy individuals are approaching environmental and social challenges through their businesses, investments and new forms of philanthropy. (For more information, see our methodology on page 50.)

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# Foreword

Dear reader,

Now in its eighth edition, this report has charted the evolution of the billionaire landscape over close to a decade.

Our latest research – which has surveyed a sample of UBS’s billionaire clients for the first time – shows us that in uncertain times, billionaires matter. Many are successful entrepreneurs, changemakers who turn ideas and inventions into innovations that others adopt and follow. As such, they’re in a powerful position to deliver not just capital, but also fresh approaches and better ways of doing what’s needed to tackle global challenges.

This year’s report highlights how many of the wealthiest in society see it as their responsibility to lead the way, using their wealth or resources to help tackle unprecedented environmental and societal challenges.

In the past, philanthropic or impact investment capital would have been channeled towards these issues. Our research shows that billionaires are now using their *business capital* to generate return and impact.

The combination of plentiful long-term capital and innovation has the potential to create huge change and opens up new opportunities for a different approach to investing. We know, for example, that billionaires take a longer-term view than public companies. This makes them willing to entertain longer periods for returns as well as being comfortable investing in companies at varying stages of maturity – unlocking capital for earlier stage companies.

We remain realistic about the ability of private capital on its own to solve the world’s problems. While we see this convergence as a clear trend, will it be done in sufficient scale to help meet the UN’s sustainability goals (SDGs) and the race to zero carbon? There are reasons for optimism and those who can connect billionaires to opportunities globally, such as UBS, play an important role in this trend.

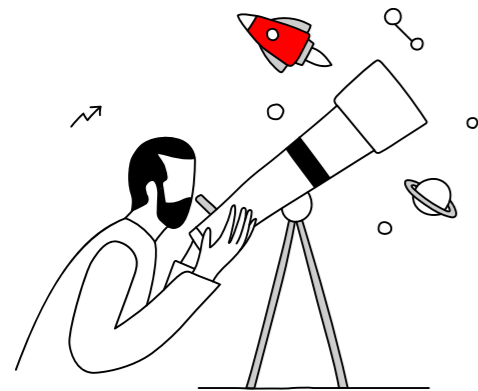
A handwritten signature in black ink, appearing to read 'G. Athanasopoulos', written in a fluid, cursive style.

George Athanasopoulos  
Head of Global Family and Institutional Wealth  
UBS Global Wealth Management

A handwritten signature in black ink, appearing to read 'Alice Page', written in a cursive style.

Alice Page  
Head Ultra High Net Worth Solutions Group  
UBS Global Wealth Management

# Executive summary

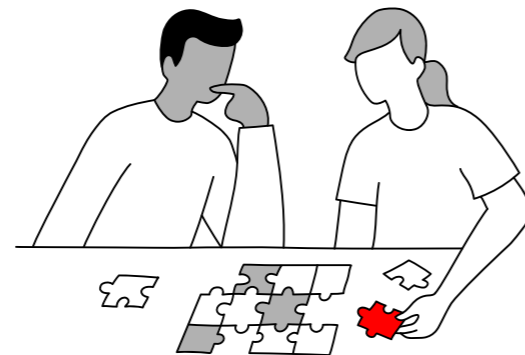


**Ninety-five percent of surveyed billionaires believe that they should use their wealth or resources to help tackle global challenges.**

In our survey of billionaire clients, just over two thirds state it's their responsibility to "lead the way," while almost a third believe they should use their wealth or resources to help tackle these challenges.

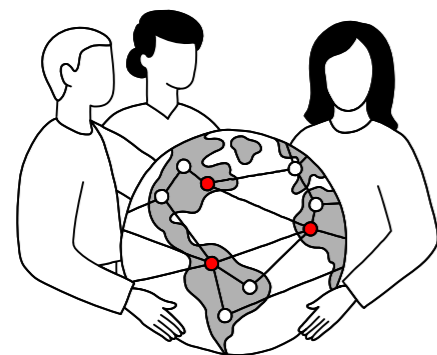
**They are doing so across their activities, not just through philanthropy.**

With many of today's billionaires being self-made entrepreneurs, they're most commonly driving environmental and social change through their businesses. However, they also do so through philanthropy and investing. Almost a fifth of those surveyed see their capital as a catalyst – helping to create solutions that others can adopt at scale.



**Turning to legacy, making a positive impact on society is a priority.**

Almost half of our clients surveyed say that they want to tackle global challenges for the sake of future generations, with a third stating that they want their resources to have a positive impact on the world.



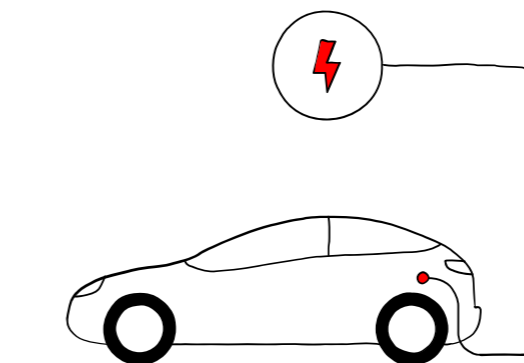
**They see the greatest opportunities for impact in smart agriculture, clean water and poverty alleviation.**

More than 40% of the billionaires surveyed see smart agriculture as one of the areas where they can make the greatest impact, alongside clean water and poverty alleviation. While they also see opportunities in green energy as well as waste management and recycling, they believe government has a greater potential role in these areas.



**Energy and Asia judged best for financial opportunities.**

When it comes to purely commercial business and investment opportunities, the billionaires surveyed view the energy sector and Asia-Pacific economies as having the best outlook over the next five years.



**Global collaborations can lead to a new era in finding solutions to the world's problems.**

At UBS, we believe that billionaires can make the greatest environmental and societal difference if they connect with others in global collaborations. By doing so, they can scale up capital and new ways of doing things to make a material difference.



# Tackling environmental and societal problems



Billionaires aim to use their wealth or resources to tackle the world's environmental and societal problems – from initiatives that tackle climate change to biodiversity, health, education and inequality. That's the main finding from our survey of UBS's billionaire clients. They're acting across a number of their activities, and a significant minority are prepared to put their capital at risk to trial new models of philanthropy for investors and governments to adopt at scale.

In total, almost all of those surveyed believe they should use their wealth or resources to help tackle global challenges. More than two thirds see it as their responsibility to "lead the way" in tackling global challenges in areas such as green energy, education, poverty alleviation and healthcare. Additionally, almost a third agree that they should use their wealth or resources to help resolve environmental and societal problems.

A European billionaire interviewed as part of the research process explained: "It's really important to have your feet on the ground and be able to understand the power you have and how you could use it in a very powerful and positive way."

### Most billionaires feel responsible for tackling global challenges

Which one of the below statements comes closest to your views about the responsibilities you and your peers have in tackling global challenges (e.g. green energy, education, poverty alleviation, healthcare, etc.)?

67%

It's our responsibility to lead the way on this and use our wealth and/or resources to help tackle global challenges



29%

It's not our responsibility to lead the way on this but we should use our wealth and/or resources to help tackle global challenges

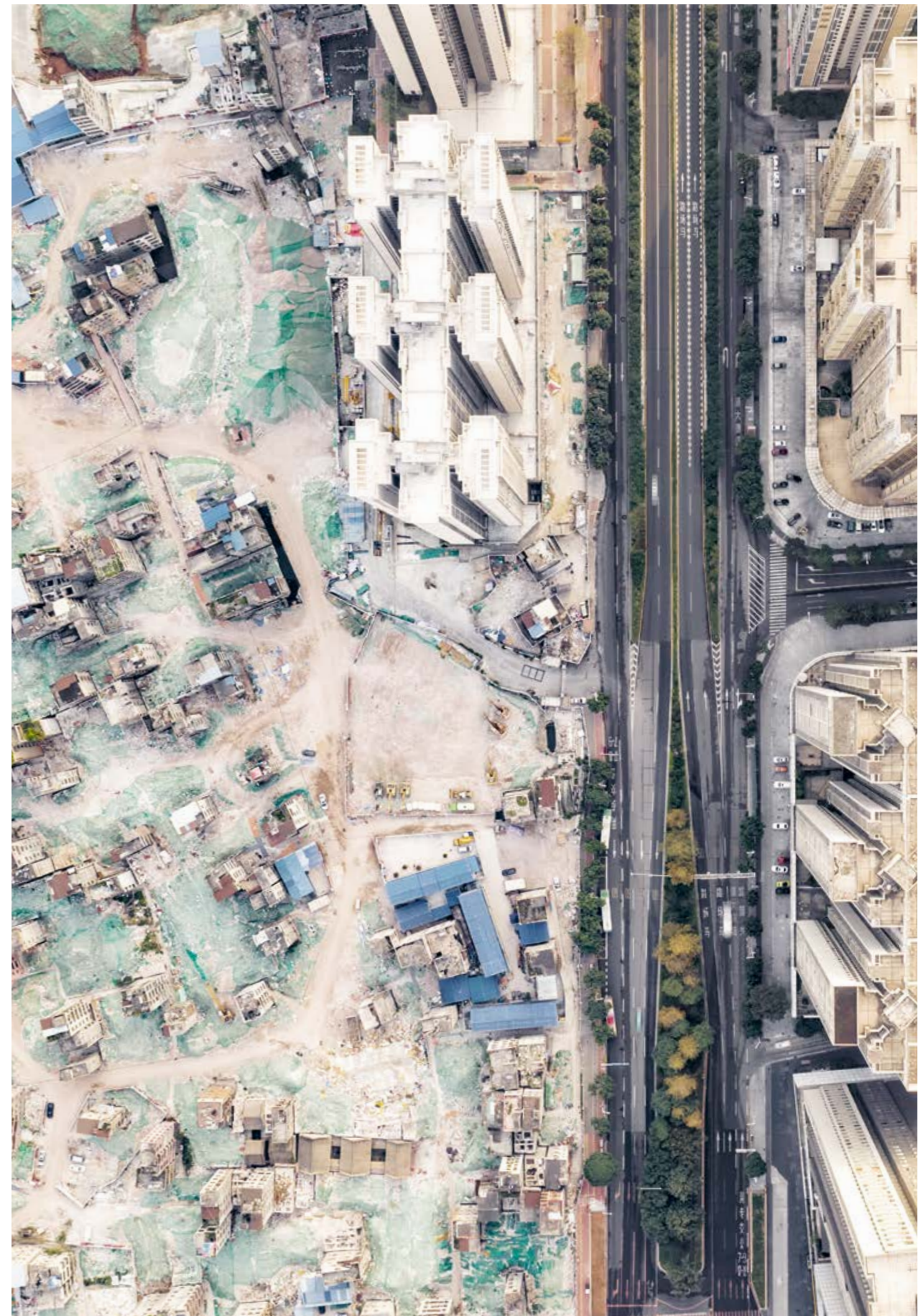


5%

It's not our responsibility to lead the way on this and we shouldn't have to use our wealth and/or resources to help tackle global challenges



Source: UBS Billionaire Survey 2022.  
Numbers may not total 100% due to rounding





“It’s really important to have your feet on the ground and be able to understand the power you have and how you could use it in a very powerful and positive way”, a European billionaire explained.

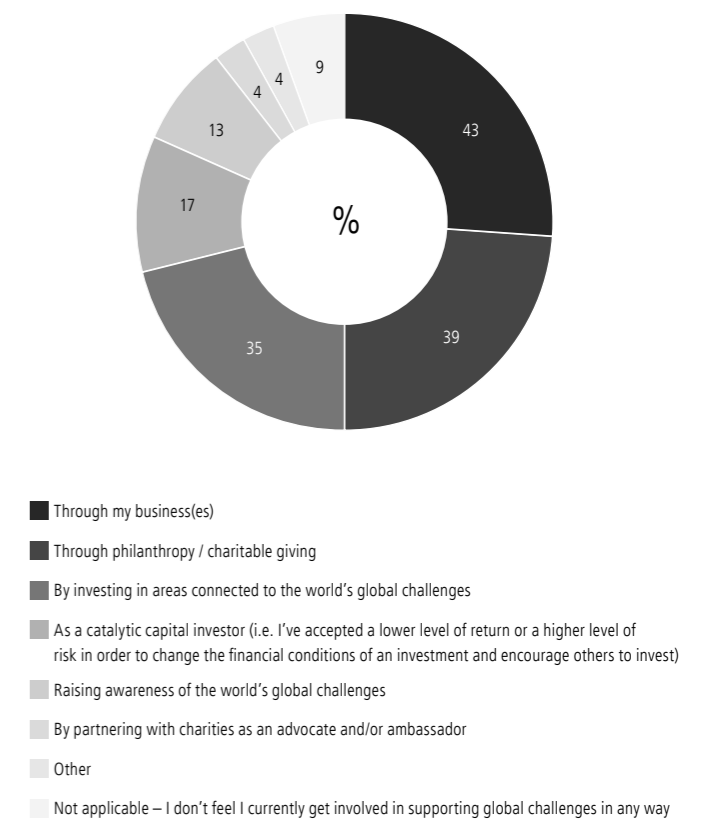
Billionaires are using multiple means to drive change. Through businesses, philanthropy and investments, they’re developing solutions for today’s challenges. Most commonly, over four in ten billionaires report acting through their businesses to address global challenges. Additionally, just over a third are doing so through investing. And almost four in ten are taking action through philanthropy.

Notably, they’re likely to have both commercial and altruistic motivations. As the drive for decarbonization intensifies, sectors such as green energy, electric vehicles and solar panels are growing fast. There are also potential investment rewards from venture capital investment in areas like smart agriculture and clean water. What’s more, innovative forms of philanthropy such as blended finance are also emerging. Societal change depends not just on innovation but the ways in which innovation is practically deployed.

Indeed, the lines between investing and philanthropy are blurring: almost one in five of the surveyed billionaires see themselves as catalytic capital investors – that is accepting a lower return on their investments, or greater risk, in order to establish more effective ways of solving problems that others can then adopt. This indicates they are prepared to test fresh solutions for problems that can make a difference at scale.

### Business, investment and philanthropy are all making an impact

Which, if any, of the following are ways in which you feel you currently get involved in addressing global challenges (e.g. green energy, education, poverty alleviation, healthcare, etc.)?



Source: UBS Billionaire Survey 2022





## From smart agriculture to clean water and education

While there are many high-profile solutions to global challenges being developed by billionaires, there are equally many lesser-known initiatives. It's not just the engineers of electric vehicles, architects of cures for disease in developing countries or mass-producers of solar panels who are having a positive impact.

The survey highlights the areas where UBS's clients see the greatest opportunity to make a difference. From the options in our questionnaire, smart agriculture, clean water and sanitation, and the broad area of economic development and poverty alleviation were identified by clients as the top areas where they can have the greatest positive impact in the future. Green energy and green infrastructure are also popular choices, with over a third seeing the opportunity to make a positive impact in each area, while access to education is viewed as an opportunity by just under a third. Education and talent development were also viewed as an area of opportunity for making positive impact by the billionaires canvassed at a UBS client event, showing how philanthropy and business often overlap, as well as illustrating the role of outcome-based philanthropy. In the words of one European billionaire: "... it has to be a lot about doing things with education, because we know that every generation starts with the education they receive, and they are the ones that could actually make the world change."

Yet while billionaires may be the innovators who pioneer better ways of doing things, often only governments have the means to use that innovation for widespread change. For instance, in smart agriculture as well as clean water and sanitation the respondents see a roughly equal opportunity for private-sector entrepreneurs and government to make a difference. In areas like green energy or waste management and recycling, however, they believe government has the greater opportunity. When billionaires at our client event were asked where governments could make the greatest positive difference, they highlighted areas associated with regulation, as this often determines whether conditions are favorable for investment and growth.

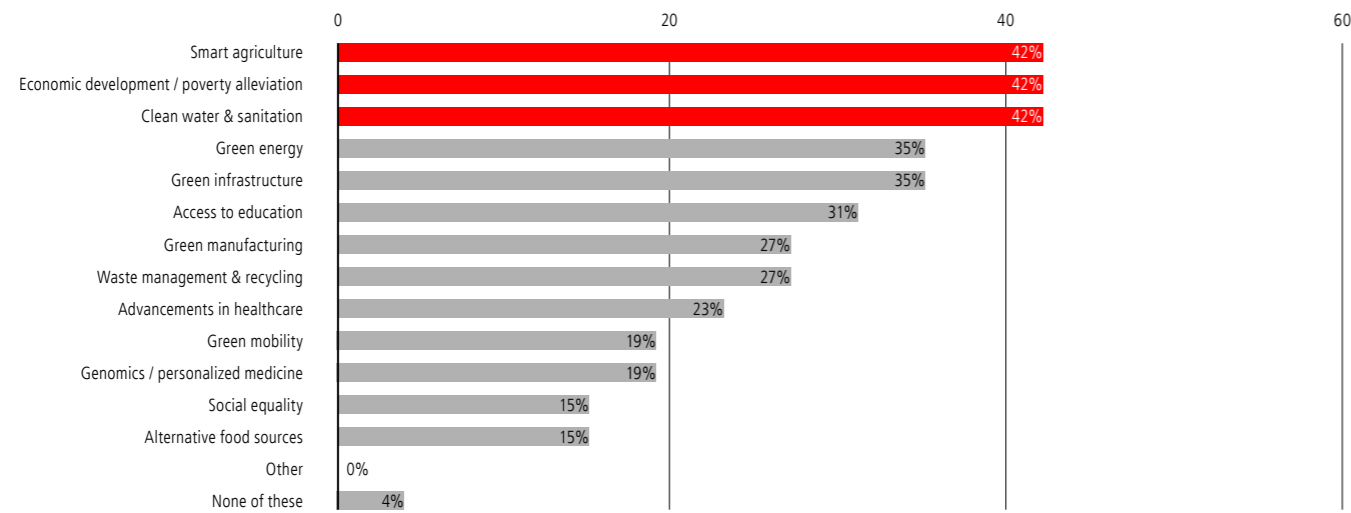
Barriers remain in the field of impact investing. More than a third (36%) of respondents don't think impact investments are sufficiently well established. Almost a third (32%) believe it's hard to measure the investments' actual impact. And almost one in five (18%) worry impact investing could carry a cost in terms of lower returns.

To illustrate how billionaires' capital is having an impact, we have concentrated on smart agriculture (see Spotlight section of this report). Taking what's often a venture capital type approach, billionaires are deploying data, artificial intelligence and automation to transform one of the world's oldest foundational industries.

In the words of a European billionaire: "... it has to be a lot about doing things with education, because we know that every generation starts with the education they receive, and they are the ones that could actually make the world change"

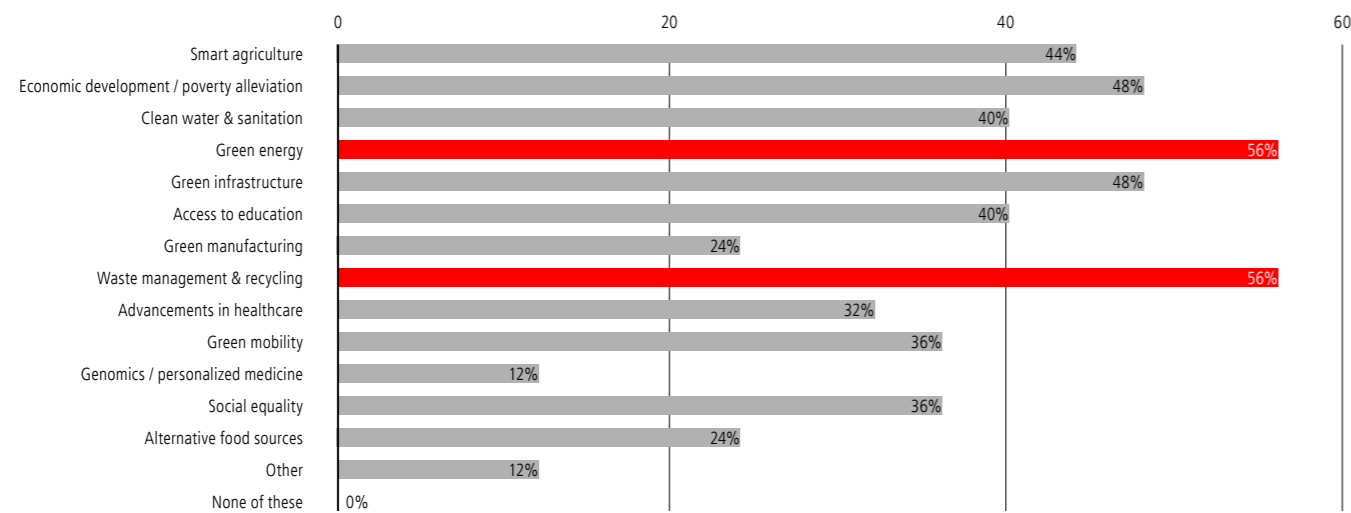
### Areas of focus for billionaires and governments

Thinking about each of the following areas connected to global challenges ... In which, if any, of the following areas do you think there will be opportunity **for you and your peers** to make the greatest positive impact in the future?



Source: UBS Billionaire Survey 2022

Thinking about each of the following areas connected to global challenges ... In which, if any, of the following areas do you think there will be opportunity **for states / government bodies** around the world to make the greatest positive impact in the future?



Source: UBS Billionaire Survey 2022



# Legacy: prioritizing impact and values

Just as billionaires are turning their attention to society's greatest challenges, so their attitude to legacy appears to be changing in similar ways. Many of today's billionaires appear most interested in leaving legacies based on positive values and making the world a better place.

When asked about what they would like their legacies to be, just over three quarters of respondents would like to pass down their values and principles to their family and the next generations. Giving an insight into what these values are, almost half (48%) say they get involved in addressing global challenges as it's important to help future generations, with a third stating that they want to use their resources to have a positive impact on the world. But as businesspeople and investors, over four in ten (43%) think that addressing global challenges will help them to combine their values with financial returns. Acknowledging that global challenges may now offer financial opportunities, almost a third (29%) think these areas will be the source of the best future investment returns.

## Type of legacy to leave behind for future generations

Which, if any, of the following best describe the type of legacy you would like to leave behind for future generations?



Source: UBS Billionaire Survey 2022

## CASE STUDY

### Engineering the UK's small nuclear power plants

In order to meet its net zero commitments, the UK is developing a fleet of small modular reactors (SMRs), with funding from a consortium including the French Perrodo family.

The industry consortium led by Rolls-Royce, the UK aero-engine maker, is joining the British taxpayer to put GBP 405 mn into developing the SMRs. Rolls-Royce has funding from US energy company Exelon Generation and the Perrodos through their BNF Resources investment vehicle.

The small, modular design allows the power station parts to be built in factories ready for quick assembly at chosen locations, making them far cheaper than traditional nuclear power stations.

## CASE STUDY

### Slashing aviation emissions by 70%

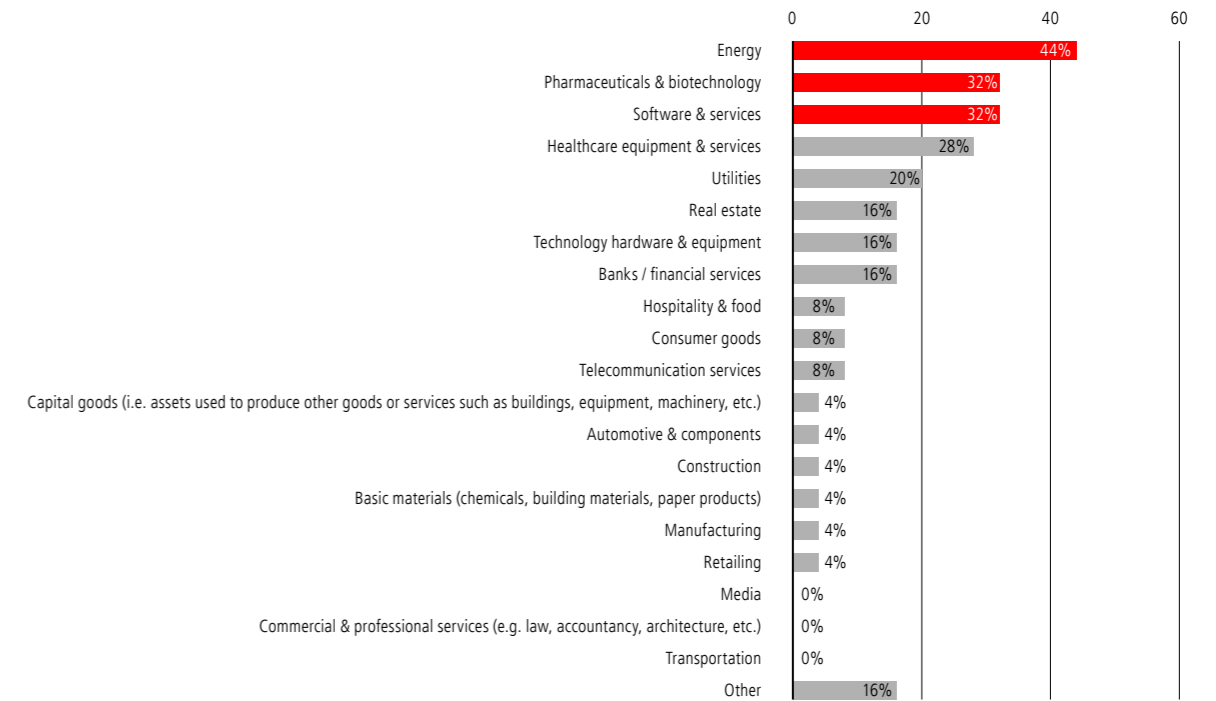
When Breakthrough Energy Ventures (BEV) announced a USD 50 million grant for Lanzajet Freedom Pines Fuels' sustainable aviation fuel (SAF) plant in October 2022, this was the latest of its initiatives in pursuit of the goal of net zero carbon emissions by 2050.

Backed by investments from more than 30 of the world's best-known billionaire entrepreneurs, BEV is accelerating technological transformation. It's supporting cutting-edge research and development, investing in companies that turn green ideas into clean products and advocating policies that speed innovation.

Lanzajet's plant in Georgia in the United States will be the first in the world to produce alcohol-to-jet SAF on a commercial scale. Projected to be operational in 2023, the plant's SAFs will lower carbon emissions by at least 70% compared with fossil fuels.

## Energy viewed as top sector for business/investment returns

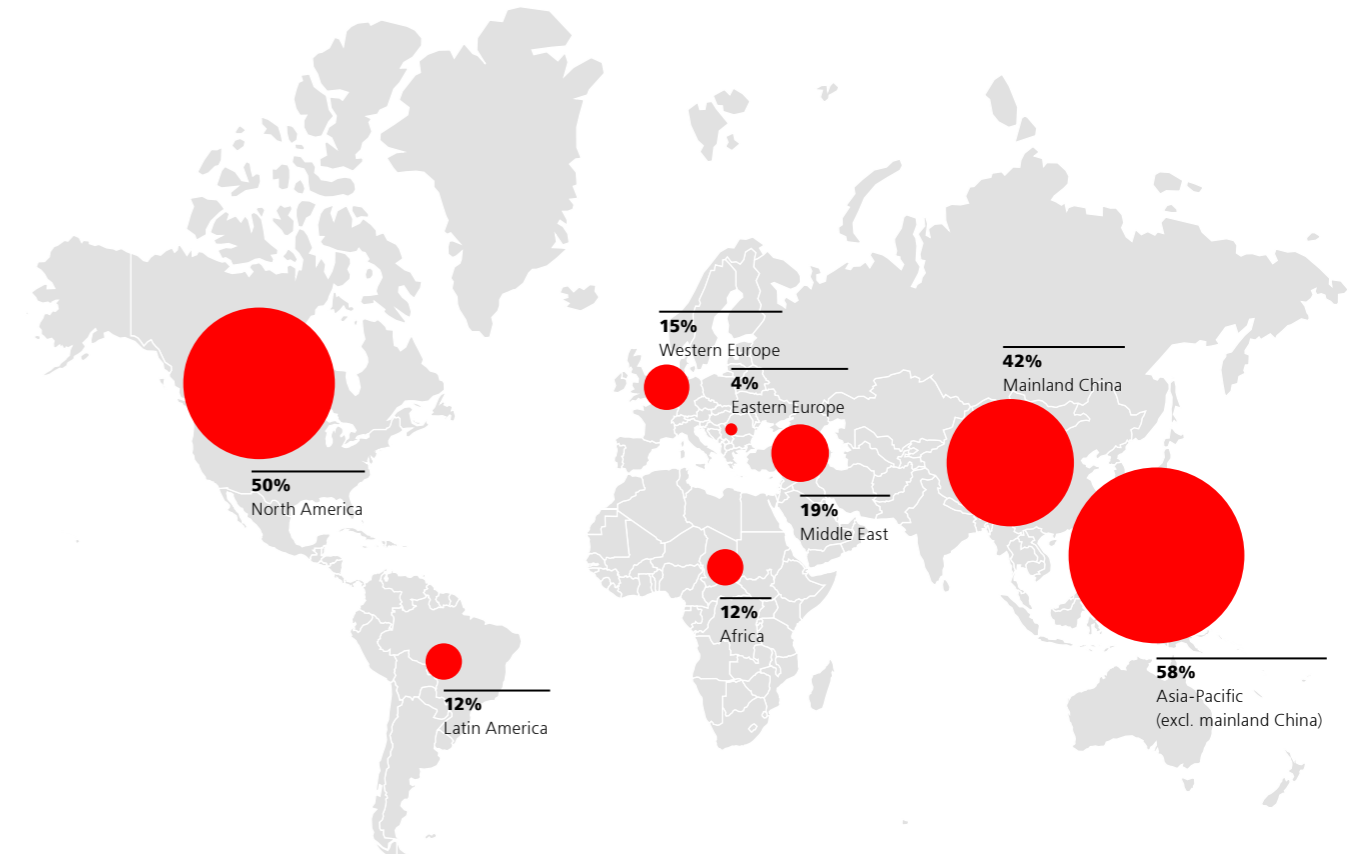
In which of the following sectors do you think there will be the greatest opportunity for business and/or investment returns over the next five years?



Source: UBS Billionaire Survey 2022

## APAC and North America are best for business/investment returns

In which of the following regions do you think there will be the greatest opportunity for business and/or investment returns over the next five years?



Source: UBS Billionaire Survey 2022

### Energy sector and Asia-Pacific judged best for medium-term opportunities

When it comes to purely commercial business and investment opportunities, the billionaires surveyed have clear ideas about where they see most potential in the next five years (irrespective of global challenges). From a sector perspective, they favor energy, possibly due to today's supply constraints and the accelerating secular transition to renewables. At the same time though, they continue to favor technology and health-care businesses – some of which have fallen from grace in terms of public equity market valuations in 2022.

Regionally, they are primarily looking to Asia-Pacific economies such as Southeast Asia and India, where economic growth remains robust. North America, with its huge domestic market and vibrant entrepreneurial culture, also remains a popular region. While still ahead of the rest of the world, mainland China lags these regions somewhat. Meanwhile, surprisingly few are drawn to Western Europe considering its position as one of the world's major economic blocs.

Yet billionaires aren't entirely optimistic. When asked what concerned them most at a UBS client event, the most common answer was geopolitics, closely followed by inflation.

# Spotlight on smart agriculture



# Using technology to boost food production

As the world's population approaches record levels, water shortages and war threaten our food supply. Through smart agriculture, billionaires are supporting pioneering food production that's kinder to the environment and closer to home.

With drought in parts of Africa and rainfall declining across many regions of the globe, feeding the world is a fundamental challenge. Today's global population of 7.6 billion is forecasted by the United Nations to reach 9.8 billion by 2050, and current intensive farming methods are considered unsustainable. On top of that, the war in Ukraine is creating food shortages in the Middle East and Africa.

Against this backdrop, just over four in ten of the billionaire clients surveyed see smart agriculture as one of the areas where they can make the greatest impact. For many billionaires, finding ways to raise agricultural productivity is a natural problem to address, as they own tracts of farmland.



Smart agriculture involves the use of technologies like the Internet of Things, sensors, robots and artificial intelligence to raise the quantity and quality of crops. Analysis of agricultural technology (AgTech) funding rounds shows that billionaires such as Bill Gates, Richard Branson and Jack Ma have been active investors, according to Crunchbase data. Similarly, companies associated with billionaires have filed an increasing number of technology patents globally. (See chart on pages 30/31)

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#### CASE STUDY

##### **Making water flow further**

Every year more countries are experiencing droughts, putting a premium on the water we need for drinking and irrigation. Recognizing the urgency, billionaire investors are investing to modernize water infrastructure.

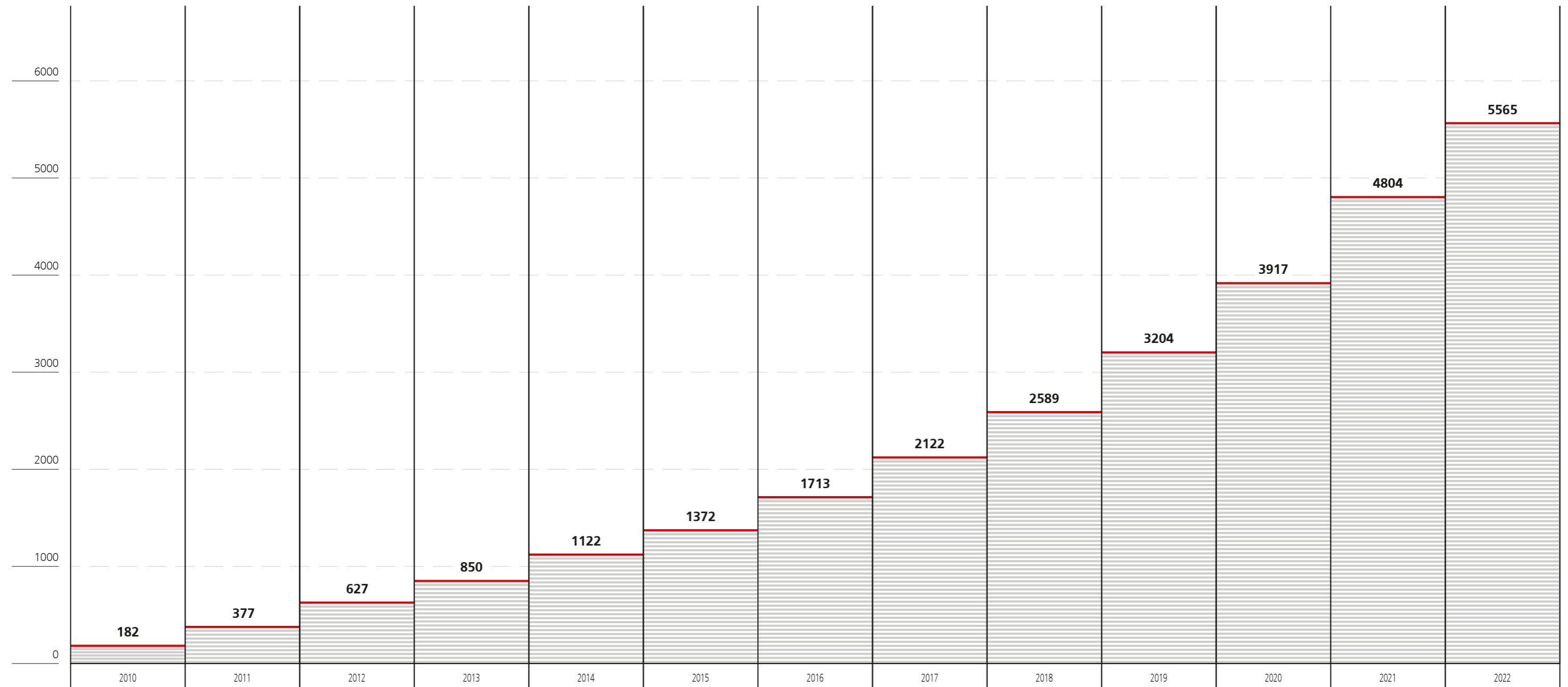
Whether through indoor farms waste water treatment technology or simply the construction of more waste water treatment plants, they are investing to make limited water resources stretch further.

Take Cambrian Innovations, the US waste water company where Laurene Powell Jobs, widow of Apple Inc.'s founder, is reportedly an investor. Using electrically-charged microbes to digest companies' refuse, Cambrian is producing clean water and energy. And, in Ghana, billionaire Joseph Agyepong is building a series of waste water treatment plants through his companies.



# Rising trend in billionaire smart-agriculture patents

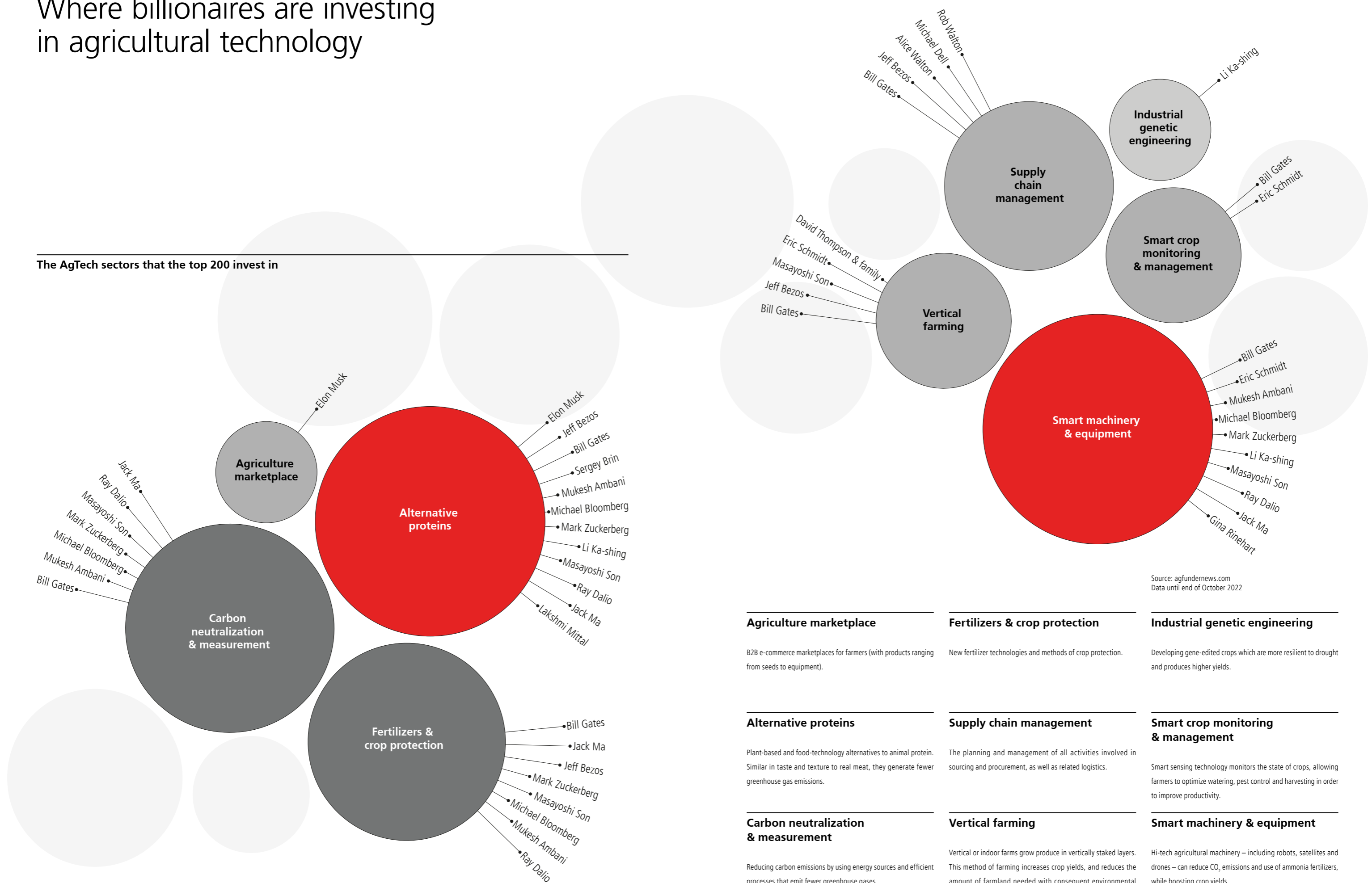
Cumulative number of patents from billionaire-related companies, identified by selected keywords\*





# Where billionaires are investing in agricultural technology

The AgTech sectors that the top 200 invest in



Source: agfundernews.com  
Data until end of October 2022

## Agriculture marketplace

B2B e-commerce marketplaces for farmers (with products ranging from seeds to equipment).

## Fertilizers & crop protection

New fertilizer technologies and methods of crop protection.

## Industrial genetic engineering

Developing gene-edited crops which are more resilient to drought and produces higher yields.

## Alternative proteins

Plant-based and food-technology alternatives to animal protein. Similar in taste and texture to real meat, they generate fewer greenhouse gas emissions.

## Supply chain management

The planning and management of all activities involved in sourcing and procurement, as well as related logistics.

## Smart crop monitoring & management

Smart sensing technology monitors the state of crops, allowing farmers to optimize watering, pest control and harvesting in order to improve productivity.

## Carbon neutralization & measurement

Reducing carbon emissions by using energy sources and efficient processes that emit fewer greenhouse gases.

## Vertical farming

Vertical or indoor farms grow produce in vertically stacked layers. This method of farming increases crop yields, and reduces the amount of farmland needed with consequent environmental benefits.

## Smart machinery & equipment

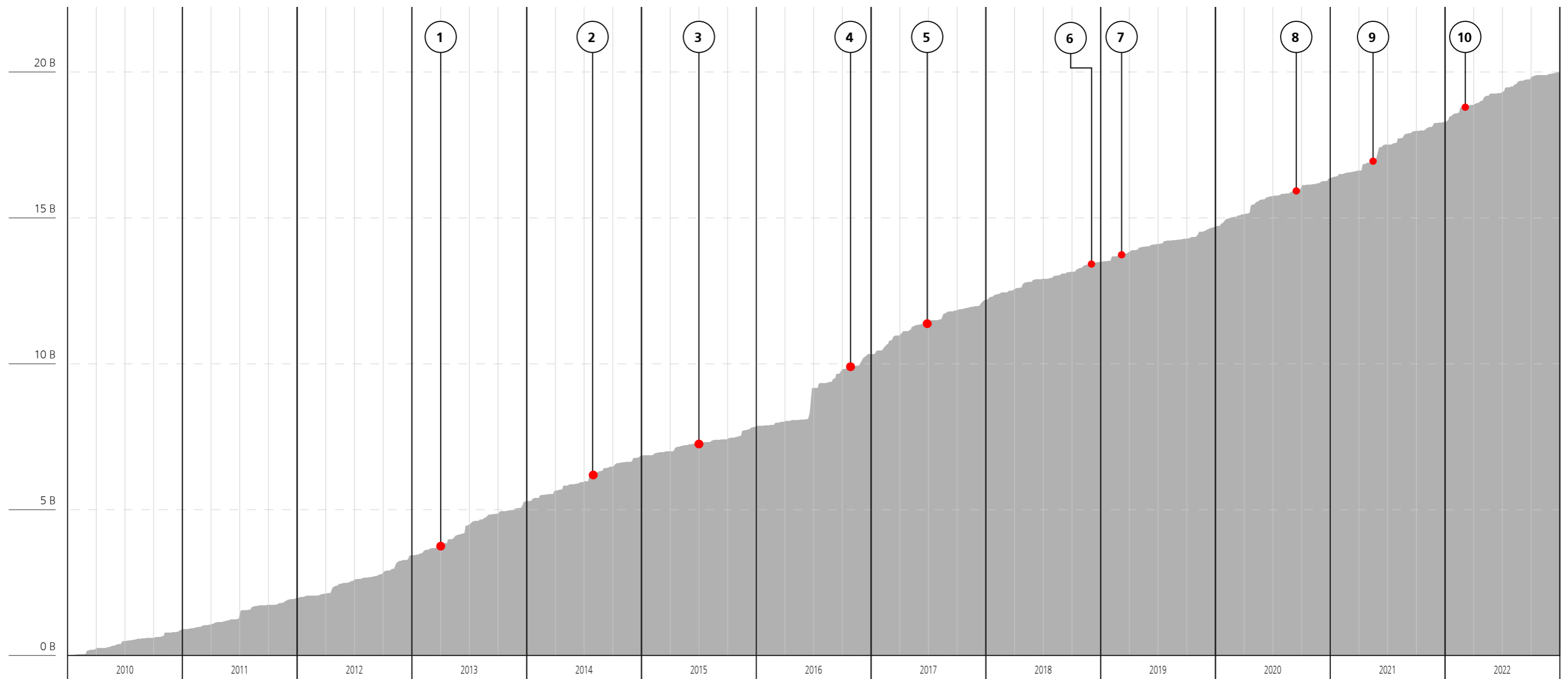
Hi-tech agricultural machinery – including robots, satellites and drones – can reduce CO<sub>2</sub> emissions and use of ammonia fertilizers, while boosting crop yields.

Source: agfundernews.com  
Data until end of October 2022

# Agricultural technology's major private investment rounds since 2010

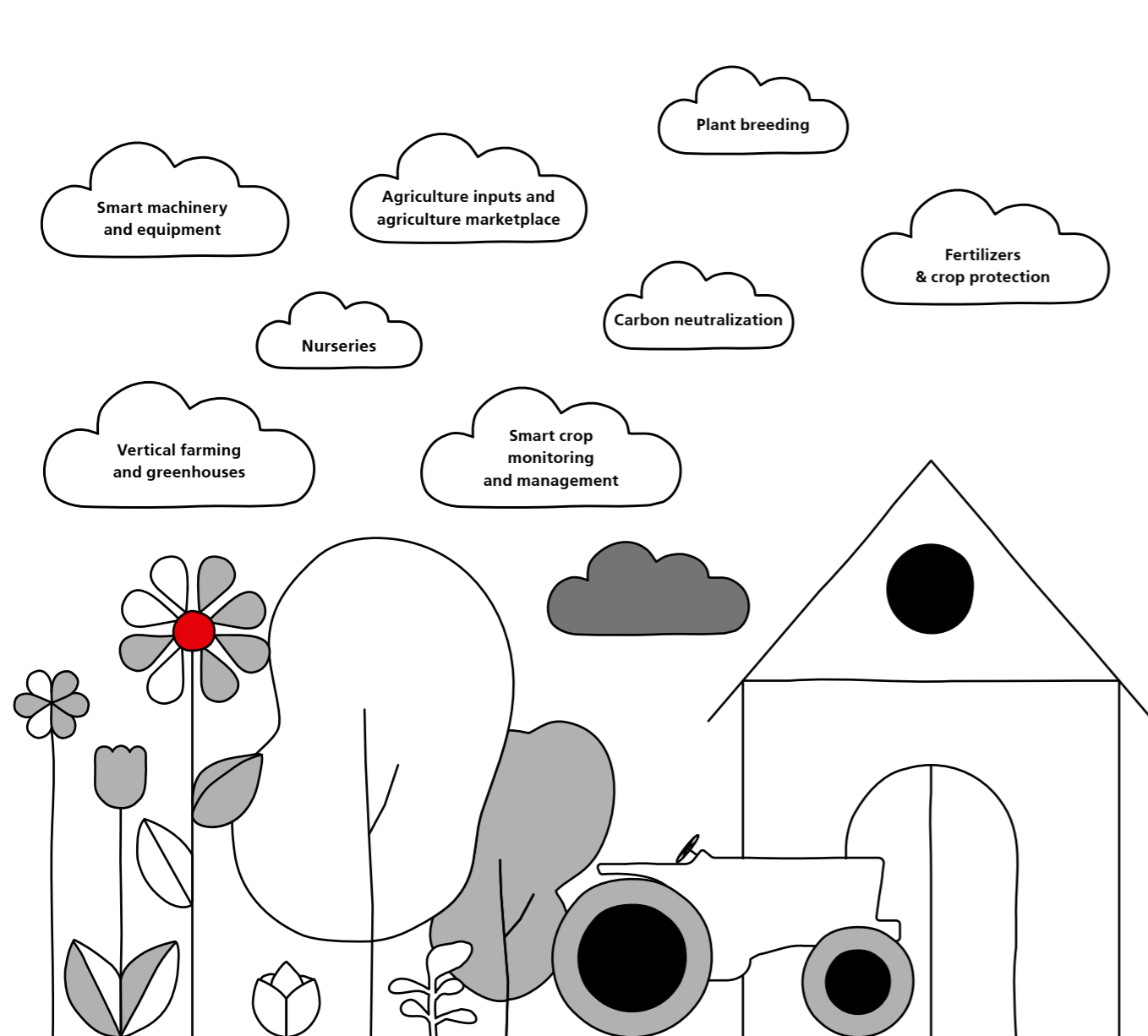
The biggest private market investment rounds into AgTech companies as tracked by Crunchbase since 2010

<b>1 April 22, 2013</b>	<b>2 July 29, 2014</b>	<b>3 June 30, 2015</b>	<b>4 December 13, 2016</b>
Fertilizers & crop protection Venture Round 13'000'000 Grosvenor Food & AgTech	Smart crop monitoring & management Series A 25'000'000 Promus Ventures	Smart crop monitoring & management Series B 40'000'000 Promus Ventures	Fertilizers & crop protection Series B 33'000'000 Upfront Ventures
<b>5 July 19, 2017</b>	<b>6 December 13, 2018</b>	<b>7 February 20, 2019</b>	<b>8 September 16, 2020</b>
Vertical farming Series B 200'000'000 Finistere Ventures	Smart crop monitoring & management Series B 90'000'000 Almanac Insights	Alternative proteins Series C 148'000'000 VisVires New Protein	Vertical farming Series C 170'000'000 Astanor Ventures
<b>9 May 26, 2021</b>	<b>10 February 3, 2022</b>		
Fertilizers & crop protection Series D 250'000'000 Upfront Ventures	Fertilizers & crop protection Post IPO Equity 125'500'000 Fall Line Capital		

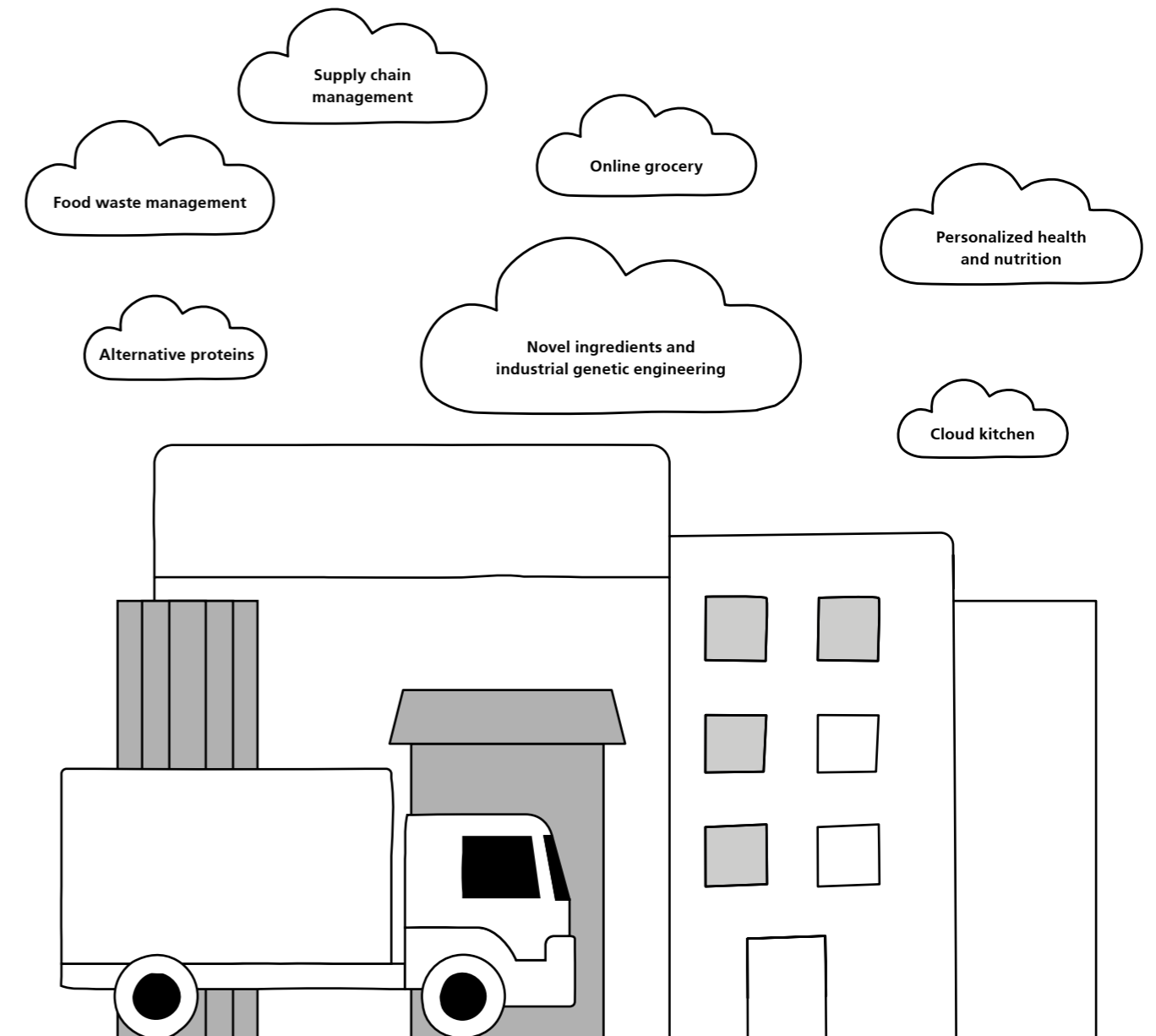


# Transforming productivity from farm to table

Our research shows that billionaires are most active at the beginning of the farm-to-table value chain, where they see great potential for AgTech to transform productivity and reduce environmental damage. For instance, companies associated with billionaires are trialing ways to decrease cows' methane emissions, cutting herbicide use through targeted spraying and developing smart rice farming technology. Further, they're building indoor or vertical farms, using less water and land (although energy use is high).



Many of these AgTechs are only now being developed. Once widely adopted and scaled up, they have the potential to help solve the problem of feeding a growing population from farmland that's under pressure.



Towards an  
“impact economy”?



The research conducted for this report suggests that we may be at the beginning of a new era as billionaires turn to solving the great problems of our age. They're in a unique position to do so, as they're often master business innovators, with sufficient wealth to invest for the long term and to take a higher risk of loss.

To illustrate the potential, long-term capital has been used to incubate future for-profit solutions such as mRNA vaccines in business, or to introduce payments-for-results mechanisms in fields such as education that leverage traditional philanthropy with investment capital.





But even the wealth of today's billionaires, standing at close to record levels (see wealth tracker on following pages), is insufficient to meet today's needs. Reaching the UN's 17 sustainable development goals (SDGs) will require an estimated USD 3.7 trillion to fill the annual SDG funding gap.<sup>1</sup> The SDGs span improving health and education, reducing inequality and spurring economic growth – all while tackling climate change and preserving biodiversity. On top of that, an estimated USD 4–6 trillion is required annually for the transition to a low-carbon economy.<sup>2</sup>

Capital alone is not enough, which is why the long-standing tendency of billionaire entrepreneurs to innovate, collaborate and take long-term risks is vital. The history of business innovation is well documented – the entrepreneurs responsible for some of the greatest innovations such as electricity or the first aircraft have commercialized the inventions of others at scale.

So, are we moving towards an era when billionaires and others apply their capital and ingenuity at scale to solve the world's problems? While this remains to be seen, the survey of UBS's clients in this report is among the encouraging signs that they're doing so – whether through business collaborations, venture capital type funds or new models of philanthropy / blended finance (including those developed by UBS Optimus Foundation).<sup>3</sup>

We believe that we may be at the beginning of just such an era: a transition to an "impact economy." There's an opportunity for billionaires and others to use their capital as a catalyst for better ways of solving today's problems, which can then be scaled up with further entrepreneurial and institutional capital, as well as government backing.

<sup>1</sup> Organisation for Economic Development and Cooperation 2021.

<sup>2</sup> UN Environment Programme's Emissions Gap Report 2022.

<sup>3</sup> UBS Optimus Foundation focuses on social impact in a variety of ways, from traditional charitable giving to social finance ([ubs.com/optimus](https://ubs.com/optimus)).

# Exceptional wealth volatility: yet rise of innovators continues

It's a time of shifting fortunes. Rapidly rising interest rates, stop-start pandemic re-openings and war in Europe are feeding market uncertainty and volatility, with wealth created and eroded in almost equal measure. Yet amidst the instability some themes persist – especially the broad concept of smart innovators rising to the top.

While the flux in billionaire wealth is exceptional, the total wealth and number of billionaires was only slightly lower at the March 2022 cut-off date for our data than 12 months earlier. There were 2,668 billionaires worth USD 12.7 trillion in March 2022, down somewhat on a year earlier when 2,755 individuals accounted for USD 13.1 trillion in 2021. (Notably, however, the total wealth and number of billionaires is likely to have fallen further since March 2022 due to declines in asset prices.)

There is a considerable underlying turnover in billionaires behind the data. A fifth (20.4%) of their population changed from 2021 to 2022, as 360 (11.6% of the cohort) saw their wealth dip below a billion dollars, while 273 (8.8%) reached that level.

For context, turnover was higher in 2021, but this was due to the number of new billionaires, as super-loose monetary policy intended to ease pandemic stresses lifted asset prices. In that year, 29.2% of the cohort changed. There were 744 new billionaires and only 84 dropouts.





#### Number of new and dropped-out billionaires by sector in 2022

Organization	Dropped-out		New		Billionaire population	
	No. of billionaires	% of Total	No. of billionaires	% of Total	Final worth USD bn	No. of billionaires
Automotive	8	10.3%	8	10.3%	518.5	68
Construction & engineering	3	5.9%	5	9.8%	123.9	46
Diversified	21	9.9%	14	6.6%	946.3	181
Energy	9	8.2%	6	5.5%	471.3	97
Fashion & retail	45	14.9%	21	6.9%	1'616	249
Finance & investments	30	7.0%	50	11.6%	1'741	392
Food & beverage	31	13.0%	15	6.3%	935.35	203
Gambling & casinos	4	14.3%	2	7.1%	107.6	23
Healthcare	29	11.7%	24	9.7%	709.1	216
Logistics	4	9.5%	4	9.5%	196.2	35
Manufacturing	37	9.7%	44	11.6%	1'096	338
Media & entertainment	10	9.2%	10	9.2%	443.1	95
Metals & mining	13	15.7%	6	7.2%	379.6	67
Real estate	35	14.7%	12	5.0%	686.7	192
Service	24	29.6%	3	3.7%	190.3	54
Sports	0	0%	3	11.1%	98.6	27
Technology	57	13.8%	41	9.9%	2'239	348
Telecom	0	0%	5	13.5%	207.1	37
<b>Grand Total</b>	<b>360</b>	<b>11.6%</b>	<b>273</b>	<b>8.8%</b>	<b>12,706</b>	<b>2,668</b>



# From fintech to tech and electric vehicles

Analyzing the results by sector gives insights into new economic themes, as well as the rise of disruptors, some of them in “green” industries.

Notably, finance and investments had the highest number of billionaires (392 in aggregate) as well as one of the greatest turnovers. Taken together, their wealth totaled USD 1.7 trillion. Fifty new billionaires were created during the year, while 30 dropped from the list. Among the new billionaires were fintech disruptors, as well as private equity and hedge fund partners.

Technology, the second most populous sector, also experienced a considerable flux. There were 41 new tech billionaires while 57 disappeared, leaving a total of 348 worth USD 2.2 trillion. This instability reflects the dynamism of a sector where barriers to entry are low and innovation is perpetual.

Finally, manufacturers flourished amid extraordinary demand for durable goods, as well as the emergence of new electric vehicle and battery entrepreneurs. There were 338 manufacturing billionaires in 2022 worth a total USD 1.1 trillion, with 44 new joiners and 37 dropouts.

# Shifting regional fortunes

Location influenced fortunes to an exceptional degree. India's billionaires prospered as the country overtook the UK to become the fifth largest economy in 2022. Powered by a youthful labor force, it is the fastest-growing of the world's major economies. One hundred and sixty-six billionaires, up from 140 the previous year, increased their total wealth by a quarter (25.7%) to USD 749.8 billion.

While wealth was flat across Western Europe at a total of USD 2.3 trillion, with the number of billionaires falling from 474 to 467 year on year, Swiss billionaires fared better. Although the total number of billionaires living there only increased by one to 41, their combined wealth rose by a quarter (25.0%) to USD 181.9 billion, reflecting the country's position as a hub for finance, as well as pharmaceuticals and commodities trading.

The United States, home to about a third of billionaires globally, was resilient with 735 up from 724 in 2021. Total wealth rose by 6.9% to USD 4.7 trillion.

In the Middle East and Africa, overall wealth rose by 7.5% to USD 279.4 billion, although the number of billionaires fell from 91 in 2021 to 89 in 2022.

By contrast, wealth dipped in countries slow to emerge from the pandemic. Japan suffered from the twin effects of late reopening and a currency that fell significantly during the period, eroding the value of wealth in US dollars. There were 40 Japanese billionaires, worth a total USD 154.5 billion – a fall of almost a third (31.5%) on the previous year.

Mainland China's zero-COVID policy slowed the growth after many years as the world's fastest-growing large economy. There were 540 billionaires, down from 626 a year before. After a decade of significantly increasing, total wealth fell by a fifth (19.9%) to USD 2.0 trillion.

Turning to Eastern Europe, the war in Ukraine severely affected billionaires' wealth. The number of billionaires in the region fell by 27 from 154 to 127, while their total wealth dropped by more than a third (34.7%) to USD 455 billion.

**Number of billionaires and their wealth by selected markets**

Market	2021				2022			
	Final worth USD bn	YoY % difference	No. of billionaires	YoY % difference	Final worth USD bn	YoY % difference	No. of billionaires	YoY % difference
Brazil	211.7	66.6%	65	44.4%	186.7	-11.8%	62	-4.6%
Canada	231.1	61.8%	64	45.5%	242.9	5.1%	63	-1.6%
France	512.3	68.4%	42	7.7%	550	7.4%	43	2.4%
Germany	625.5	40.3%	136	28.3%	608	-2.8%	134	-1.5%
Hong Kong	448.2	44.6%	71	7.6%	383.4	-14.5%	67	-5.6%
India	596.4	90.8%	140	37.3%	749.8	25.7%	166	18.6%
Japan	225.4	104.9%	49	88.5%	154.5	-31.5%	40	-18.4%
Mainland China	2'532	114.7%	626	61.3%	2'027	-19.9%	540	-13.7%
Russia	578.1	51.8%	117	20.6%	326.9	-43.5%	83	-29.1%
Singapore	156.9	73.0%	27	0.0%	106.7	-32.0%	26	-3.7%
Switzerland	145.5	50.9%	40	14.3%	181.9	25.0%	41	2.5%
United Kingdom	213.9	38.9%	56	21.7%	199.1	-6.9%	49	-12.5%
US	4'398	49.1%	724	17.5%	4'701	6.9%	735	1.5%
<b>Grand Total</b>	<b>10'875</b>	<b>64.7%</b>	<b>2'157</b>	<b>31.8%</b>	<b>10'418</b>	<b>-4.2%</b>	<b>2'049</b>	<b>-5.0%</b>

**Number of billionaires and their wealth by region / subregion**

Region	Subregion	2021				2022			
		Final worth USD bn	YoY % difference	No. of billionaires	YoY % difference	Final worth USD bn	YoY % difference	No. of billionaires	YoY % difference
Americas	Latin America	312.1	72.1%	92	43.8%	284.5	-8.8%	88	-4.4%
Americas	North America	4'766	49.1%	801	19.2%	5'105	7.1%	813	1.5%
<b>Americas</b>	<b>Total</b>	<b>5'078</b>	<b>50.3%</b>	<b>893</b>	<b>21.3%</b>	<b>5'389</b>	<b>6.1%</b>	<b>901</b>	<b>0.9%</b>
APAC	North Asia	2'994	108.9%	765	60.4%	2'442	-18.4%	672	-12.2%
APAC	South Asia	597.8	90.4%	141	36.9%	751.3	25.7%	167	18.4%
APAC	Southeast Asia & Oceania	1'122	56.4%	237	22.8%	1'053	-6.1%	245	3.4%
<b>APAC</b>	<b>Total</b>	<b>4'714</b>	<b>91.3%</b>	<b>1'143</b>	<b>47.9%</b>	<b>4'247</b>	<b>-9.9%</b>	<b>1'084</b>	<b>-5.2%</b>
EMEA	Eastern Europe	696.9	52.5%	154	21.3%	455	-34.7%	127	-17.5%
EMEA	Middle East & Africa	260	33.8%	91	19.7%	279.4	7.5%	89	-2.2%
EMEA	Western Europe	2'336	51.3%	474	23.8%	2'336	0.0%	467	-1.5%
<b>EMEA</b>	<b>Total</b>	<b>3'293</b>	<b>50.0%</b>	<b>719</b>	<b>22.7%</b>	<b>3'070</b>	<b>-6.8%</b>	<b>683</b>	<b>-5.0%</b>
<b>Grand Total</b>	<b>Total</b>	<b>13'084</b>	<b>62.8%</b>	<b>2'755</b>	<b>31.5%</b>	<b>12'706</b>	<b>-2.9%</b>	<b>2'668</b>	<b>-3.2%</b>

UBS conducted an online survey of its billionaire clients that are booked in Switzerland, Europe (excl. Switzerland), Singapore, Hong Kong, and the US between 29 June to 5 September 2022. The total sample size achieved in the survey was 28 respondents.

In addition, UBS gathered the views of its billionaire clients that are booked in Switzerland, Europe (excl. Switzerland), Singapore, Hong Kong and the US attending an event on 27 and 28 October 2022. The event attendees were asked a series of open-ended questions which captured their spontaneous thoughts. The total sample size achieved was 22 respondents.

### **Patents research methodology**

UBS Evidence Lab mines over 125 million patents across over 90 countries to track patent application volume trends over time. To define a patent set for analysis, UBS Evidence Lab will either identify a set of international patent classification (IPC) codes that encompass the technology of interest or develop a lexicon of search terms (i.e. keywords) pertaining to the topic of interest. IPC codes are used by the World Intellectual Property Organization to categorize patents by type. For the purpose of this report we ran the patents analysis on the following selected keywords: plant biotechnology, water management, food waste, food security, weather forecasting, precision agriculture, plant factory, water efficiency, plant-based protein, smart agriculture, vertical farming, water-saving technology, smart farming, indoor farming, agricultural drones, livestock monitoring. The analysis includes only companies with at least 10 patents filled since 2010. The list of companies that came up from our patent analysis was cross-referenced with a list of all companies on our database (publicly listed and private) related to billionaires. Among the total of 441 companies included in this patent analysis, 27 are either owned by billionaires or have billionaire investors. The chart illustrates total number of patents filed in each year (cumulatively). Note: data for 2022 is up until September.



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