CHECKPOINT

Substrate AI   BUY

Next Generation algorithms powering business growth

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Substrate AI is an Artificial Intelligence company (66 employees) with verticals in MedTech, Fintech, Energy, Human Resources and AgriTech, with expected revenues of €5.9 million and €8.0 million in 2023 and 2024 respectively.

Its proprietary algorithms are a next generation of Reinforced Learning artificial intelligence software, applied to all their business verticals to enhance growth and value creation.

Substrate AI algorithms serve revenue generation (in digital marketing, diagnostic solutions, etc), cost savings (predictive maintenance, energy saving, etc) and enhanced careers and talent management.

The business model is complemented by a core AI consultancy / product development side, made up of some 24 professionals. Two solutions available in the Microsoft Azure, an emerging AI consulting business and R&D work already to show for.

The company floated on BME Growth in 2022 and has so far experienced a strong downward price adjustment. The current macroeconomic and financial environment has impacted the valuation of cash-flow negative business like Substrate AI.

We initiate our coverage of Substrate AI with a BUY recommendation and a 12-month price target of €1.35 per share.

We believe that Substrate AI could be trading at 5x EV/Sales next year, based on our estimates of strong revenue growth which we would consider a validation of the effectiveness of their AI algorithms.
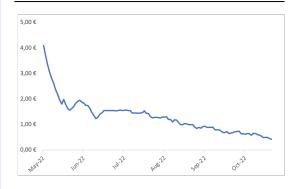
Equities

BME Growth
Technology

Price (4pm 22/11/22): €0.22
Ticker: SAI.MC
Target Price (12-18 m): €1.35

52-Wk range (€):	4,10 - 0,22
Cap. Bur. (€ millones):	4.9
No. Shares (millions):	22.3
Avg. daily Vol. (€,12m):	24k
Daily volatility (avg. LTM):	5.2%

Price Chart (since IPO: May 17th)

(€ millions)	2021	2022e	2023e	2024e
Turnover	**1,6**	**3,3**	**5,9**	**8,0**
Ebitda	-0,5	-1,1	1,3	2,4
Ebitda (cash)	-0,9	-1,8	-1,0	0,1
Net Profit	-0,6	-15,2	-0,6	0,5
EPS	**-0,03**	**-0,68**	**-0,02**	**0,02**
EV/Sales (x)	**3,7**	**1,8**	**1,0**	**0,7**
EV/Ebitda (x)	-11,2	-5,5	4,6	2,4
EV/Ebitda cash (x)	-6,3	-3,2	-6,0	41,6
P/E (x)	**n.m.**	**n.m.**	**n.m.**	**11,7**
CFY	-15%	-31%	-22%	-1%

Brief history of Substrate AI

Substrate AI was incorporated in 2010 under the name KAU Finanzas, S.L. Up until 2018, the company operated solely as a private financial advisory business that today is part of the fintech vertical of Substrate AI.

In 2018, KAU Finanzas, S.L. changed its corporate name to Zona Value, S.L. and shortly afterwards to **Substrate Artificial Intelligence, S.A.** as a Sociedad Anónima (or Public Limited Company).

In May 2022, Substrate AI listed on BME Growth, in Spain, to provide liquidity to its 200 minority investors and to gain access capital to finance future growth.

SHARES BASED EQUITY CAPITAL INCREASES:

42% or **9.3 million shares** of the current **22.3 million shares in issue** are mainly the result of three share based acquisitions of companies formerly belonging to Substrate AI founders. In addition, three smaller ones (100% of Summon Press, 70% of 4D Médica and 10% of Assitacasa) were acquired to third parties (the Assistacasa acquisition was executed but later reversed so the issued shares came back as Treasury Stock):

- The Intelectual Property of the CTO´s Bren Worth together with his team was brought into Substrate AI for **4.5 million shares** or 21% of the current number of shares.

- The main KAU Markets advisory business was contributed by the founders at an agreed valuation of **1.8 million shares** (8% of Substrate AI).

- In the US, Saivers AI LLC, a licensed and regulated financial advisory business, was brought into the fold for **1.8 million shares** of Substrate AI (another 8%).

- Summon Press: **700k** shares where used as part of a €5 million cash and share based acquisition.

- 4D Médica: **70k shares** of Substrate AI were paid out as part of a cash and share based €1.4 million acquisition.

CASH BASED EQUITY CAPITAL INCREASES:

58% or **13.0 million shares** of the current **22.3 million shares** have been issued in exchange for **€7.7 million** in 9 separate events, at an average entry price for investors of €0.59 per share.

The last 3 share issuance where done In 2H2002 as part of an **€800k** convertible instrument provided by Alpha Blue Ocean (€500k in August and €300k in October 2022). **€150k** has already been converted into shares (average price of €0.62 per share) and the rest has yet to be converted, which could add an additional **2 million shares** (price and final amount yet to be determined) and could represent around **8%** of the total new number of shares (around 24.3 million).

The total **€7.7 million** raised (plus the €0.65 million yet to be converted into shares) has, so far, been evenly invested in **€3.6 million worth of acquisitions** in the MedTech, Fintech and Human Resources verticals and **€3.7 million** (as of June 2022) **to fund the organic growth** of the business, including the creation of two start-ups. No new acquisitions are expected in the short term.

ACQUISITIONS:

- **Human Resources: Summon Press**, focused on publishing, content writing and web advertising was acquired for **€5.5 million**. €3 million in shares and the remainder paid in cash (Substrate AI is now claiming some €2 million back from the sellers, for not meeting the earn-out clauses). This business has now been integrated with **Fleebe**, an AI tool intended for large corporates to hire, hold and empower talent developed internally by Substrate AI.

- **MedTech:** acquisition of 70% of the shares of **4D Médica, S.L.** for **€1.4 million** (€1.1 million in cash + €0.3 million in shares), which valued the overall veterinary imaging business at **€2 million.**

- **Fintech:** The **Intefi School of Business** (dedicated to online financial training) and **Serenity Markets** (a website offering online financial information) was acquired for **€600k** and blended with the existing FinTech businesses related with financial marketing and AI investment strategies.
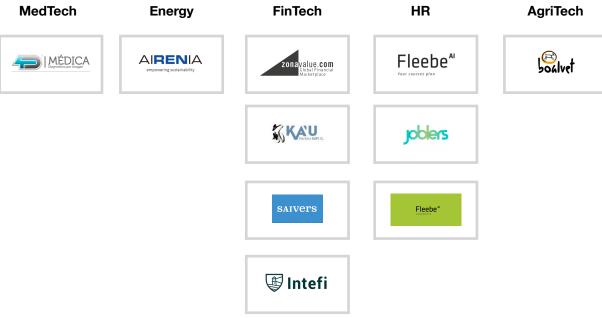
STRAT-UPS FUNDED BY SUBSTRATE AI:

- **AgriTech:** formed via the funding of the **Boalvet** start-up**,** focused in AI-managed milk farms, where Substrate AI has 90% and the CEO retains 10%, as an incentive.

- **Energy:** created **Airen IA** from scratch, as a start-up focused in developing AI for energy saving and renewable energy infrastructure maintenance. Substrate AI retains a 90% stake and the CEO 10%, as an incentive.

To complement the funds raised with Equity, Substrate AI has a long term loans of €1.0 million and just recently (November 2022) an additional €0.2 million loan was raised to fund the working capital of the business. At present, 2% of the shares of Substrate AI are currently held as Treasury Stock.

CORPORATE STRUCTURE:

AI Consulting / Marketplace + R&D

MedTech	Energy	FinTech	HR	AgriTech
4D MÉDICA	AIRENIA	zonavalue.com	Fleebe	boalvet
		KA'U	joblers	
		saivers	Fleebe	
		Intefi		

Source: Substrate AI

Team and Shareholders

Substrate AI has currently 66 employees and 5 Board of Directors, 2 o which are executives, namely Lorenzo Serratosa and José Iván García and 3 non-executive: Cyrille Restier (founder of Centaure Investments), Christopher Dembik (Director of Research, Saxo Bank) and Jesús Mota (ex-Deloitte).

The executive leadership team consists of Lorenzo, Serratosa, José Iván García, Bren Worth, Francisco Hernández and Nicolás Damiá:

Chairman: Lorenzo Serratosa

Degree in Philosophy from the University of Valencia. Lorenzo has worked advising funds and investment portfolios for entities such as Inversis, Andbank and Mapfre and has been CEO of several companies in the Fintech, agri-food and audiovisual sectors. He holds interests and is a director in companies in various sectors such as technology, agri-food, finance and real estate. **At present, he owns 19% of the shares of Substrate AI.**

CEO: José Iván García

A graduate in Business Administration from the University of Valencia, he has worked advising funds and investment portfolios for entities such as Inversis, Andbank or Mapfre and has been investment director at Kau Markets EAF and promoter of the strategies for investing in the stock market with AI of the American company Saivers. He has also been CEO of Substrate AI USA since 2019. **At present, he owns 18% of the shares of Substrate AI.**

CTO: Bren Worth

Senior Software Engineer with 15 years experience in application development. His areas of expertise include aerospace engineering, mechanical engineering, investment banking, energy trading, military intelligence and law enforcement. He has worked for companies such as JP Morgan and Under Armour and for the last 7 years he has been developing reinforced learning and advanced machine learning technologies. **At present, he owns 8% of the shares of Substrate AI.**
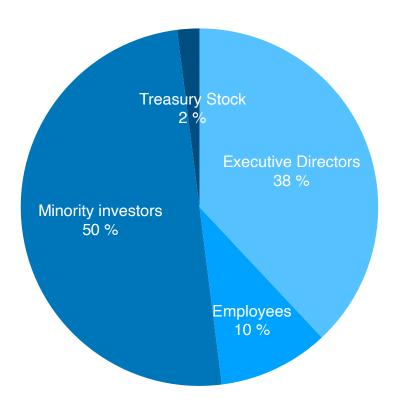
Product Development: Francisco Hernández

Computer Engineer from the Universidad Pontificia de Comillas, completing his training in computer science in the UK. He has more than 15 years of experience in Digital Transformation in different roles. He began his career at ICEX, the Spanish Institute for Foreign Trade, in Canada. He has worked in companies such as Sener or Bupa optimising the way they operate through technology and data. In May 2021 he joined Substrate AI as COO.

CFO: Nicolás Damiá

Graduate in International Business at the University of Valencia and, after graduating, did a Masters in Finance at CUNEF. Nicolás started his professional career as an auditor at PwC (3 years), passing through the M&A department for another year and a half, also at PwC. Subsequently, he spent 2 years at Enagás as a senior financial controller. He is currently CFO of the Substrate AI Group.

SHAREHOLDERS:

Treasury Stock 2 %
Executive Directors 38 %
Minority investors 50 %
Employees 10 %

Source: Substrate AI, Checkpoint

A business project built around the power of Artificial Intelligence.

Substrate AI has been founded primarily to take advantage of the unique properties and characteristics of its proprietary **Biology-Inspired** next generation **AI technology**, developed by one of the founders and CTO, Bren Worth, alongside the Rensselaer Polytechnic Institute in New York.

The technology can be applied to a variety of problems in places where AI has not able to provide an adequate solution to date, so to turn this advantage to business value creation:

> **ACQUISITIONS AND START-UPS:** The main business premise of Substrate AI is that once it acquires a company, then it injects next generation AI to outcompete their peers and build substantial value for Substrate AI shareholders. Alternatively, Substrate AI has also successfully created companies from scratch like it is the case in the AgriTech and Energy verticals. More are to be expected in other areas.

> **AI SOFTWARE SERVICES:** Substrate AI is also selling its algorithms to third parties as part of a consultancy service (primarily to larger companies). These services may also include interim R&D work as well, carrying tax advantages that can be monetized with a Special Purpose Vehicle called AIE (under Spain's tax regulations). In addition, it is also packaging its algorithms as off-the-self products on the Azure Marketplace, to complement its revenue source.

Substrate AI's **Biology-Inspired** algorithms are particularly attractive because they address complex problems via **Reinforced Learning** in order to solve them with little data and adapt itself to non-stationary environments. In a way, their algorithms mimic how people's cognitive and affective systems work together, applying solutions sourced from neuroscience and psychology to make them capable of adapting to human environments.

Reinforced Learning is considered Next Generation because it greatly improves the chances of successful decision making compared to **Machine Learning** algorithms, most widely applied today. With Machine Learning, machines do not actually learn, but rather look for patterns in a series of data and must be continually re-programmed to adapt to changes in these databases or in the environment.

Substrate AI´s algorithms can be applied to almost any business problem, as long as there is data (however little) and an inefficiency to solve. The investment value creation behind AI is primarily related to a more accurate processing of data in order to better serve a range of business objectives or KPIs.

Revenue generating solutions:

All businesses in all markets rely on generating revenues form their respective clients and Artificial Intelligence is essentially a business tool that allows them to optimize the search for customers whilst enabling superior customizations of their needs and requirements. In a competitive consumer market economy, consumer companies (large or small) can gain a competitive advantage with more effective digital marketing campaigns.

Cost saving solutions:

AI can be used to successfully identify costly inefficiencies and provide solutions to resolve them: predictive maintenance and quality control in factories, energy savings, improving operations in logistic or decision making in agriculture are some of this cost saving solutions where Substrate AI provides value.

Identifying needs and talent:

Businesses are continually investing and yet always facing problems related to retention of the best human talent. Substrate AI algorithms can help to identify and attract talent faster and more accurately, whilst identifying what elements of potential training, relocations and/or promotions, in order to retain them for longer (cornerstone of their HR vertical).

Substrate AI solutions are comparatively more efficient because they work by dynamically adjusting the agent's goals, placing the focus of attention on states and available actions. The agent framework includes subsystems for modeling affective states, sub-goal selection, attention, and action affordance, which are all implemented as individual reinforcement learning systems.

In practice, Substrate AI competitive advantages in relation to other kinds of AI algorithms are:

- **Works with 98% less data:** makes the application of this technology to specific projects in the company much more efficient, reducing product development time and the need to obtain specific funding for each project.

- **Adapts to changing environments:** Substrate AI technology achieves this adaptive capability by using an algorithm capable of continuously adjusting the hyper-parameters of the model as the environment changes, adapting the agent's behavior to these changes.

- **Implements quickly:** due to the characteristics of the software, there is a significant reduction in the training times and can all be converted into Plug and Pay solutions, helping their swift implementation in companies with minimal operational changes.

In order to protect its intelectual property, Substrate AI has 12 patents pending, related to the way in which agents are trained and to the way in which they work in decision-making and adapt to changes.

In summary, Substrate AI is a unique and differentiated proposition that mixes the introduction of cutting edge AI technology with traditional venture funding. In practice, if the algorithms allow the invested businesses to double their growth potential, so will their ability to create value for shareholders.

Substrate AI, then, is out to demonstrate the strength of a proven AI next generation algorithm primarily on a set of companies they directly control, so to align a business strategy around the technology. The alternative could have being to exclusively sell consultancy services to third parties as a software companies sometimes do, but the current management understands they would not be able to maximize value for shareholders that way.

Substrate AI business verticals

Substrate AI is currently divided along **six business verticals**, the first being the "mother-vertical" dedicated mainly to provide **Artificial Intelligence** technical expertise to to third parties and portfolio companies, under the other five verticals.

1. AI Consulting

The AI consultancy division owns the AI algorithms and houses the technical team that programs and develops them.

The teams continually looks for opportunities to fit their AI algorithms into third party clients and new business ventures. It therefore performs as the business development department that looks for acquisition opportunities (4D Médica, Summon, Intefi, etc) and helps create new start-up opportunities for the group to develop in house (Bolavet and Airen AI to give an example).

substrate **AI**

A. Consulting

Substrate AI algorithms are made available to medium and large business clients as a fee-based consultancy work in order to address specific needs, normally aimed at revenue enhancing or cost savings solutions.

This is an area where Substrate AI competes with other Software consultancy businesses, with the advantage of having next generation AI algorithms that enables them to approach a wider range of business problems.

B. Azure Marketplace

All products and solutions created by Substrate AI have been, are being and will be developed as Plug and Play solutions and sold through the Azure marketplace.

The first plug and play solution from Substrate AI that can be purchased through the Azure marketplace is Predictive Maintenance. An example of "predictive maintenance with AI" is the one that has been developed for Canadian Solar. Monitors inverters in solar farms to detect anomalies and predict their useful life in order to save on maintenance costs.

During 2023 the following solutions are planned to be offered in plug and play mode:

- Fleebe Corporate - 2023
- Pest control solution -2023

C. Research and Development

The current Spanish tax framework allows for certain R&D projects to claim a percentage of the money invested to be claimed back. It is not unusual for most countries to provide financial incentives to emerging R&D based companies and Spain is no exception.

Given that Substrate AI is at a stage of still developing new AI based solutions, a portion of their expenses are classified as Research and Development and, with it, carries eligibility for cash-backs.

In Spain, in order to qualify for the monetization of R&D, the investment can be placed under a special purpose vehicle called AIE (Agrupación de Interés Económico or Economic Interest Grouping, in English). The AIE is owned by tax driven investors and act, from an accounting perspective, as actual customers of Substrate AI.

2. Medtech

4D Médica is a medical device distribution company, specialized in the commercialization and distribution of Diagnostic Imaging equipment (radiology, MRI and computed tomography) for the veterinary market in Spain. Some 50 million diagnostic imaging tests are performed in Spain every year in public and private hospitals, with a global value of €3.2 billion and estimated to be growing 3% per year. 4D Médica intends to enter this part of the market in 2024.

Beyond its core capabilities in the distribution of diagnostic imaging equipment where the company has a extensive expertise, 4D Médica is developing differentiated AI-related revenue streams:

(1) **Diagnosis using AI**: 4D Médica is developing a system that provides veterinarians with a quick diagnosis of the possible pathology as soon as the radiological image is taken. The image diagnosis is backed by the Reinforced Learning AI algorithm training done with more than 90 million images, through the collaborative work of more than 200 veterinary clinics and hospitals. Customers are offered a SaaS service for self-diagnosis first in the Veterinary area and, in a second phase, in Human health.

(2) **Integral management of veterinary clinics**: based on hardware that captures both positioning images and density of the animal, developed by 4D Médica, data is then uploaded into a management system that automatically parameterizes the radiology equipment (whether CT, X-ray, MRI, ultrasound, etc.). The AI system manages the equipment installed to the specifications of the tests to be performed on the animal. Once the images are taken, the system provides a diagnosis of the possible pathologies, uploads the data to a clinic management software to then issue the clinical reports. The new 4D Médica system saves the veterinarian on many tasks, such as the configuration of machines, on the number of tests to be performed on each animal, on administration work, on clinical history filing, etc.

3. Energy

In the world of energy and through his subsidiary Airen IA, Substrate AI has developed two solutions:

A. Predictive maintenance of solar power plants with AI:

Photovoltaic inverters are monitored on an individual basis so to predict the time for their most efficient replacement. Monitoring and learning is done in a solar farm by solar farm basis, according to each plant, brand, style and operations, given that components perform differently depending on their geographical locations.

Started marketing its predictive maintenance solution in solar plants in 2022. Its partners include Canadian Solar, Assista and environmental consulting company Algakon.

B. Energy savings in buildings with AI:

An AI-enabled building energy management system to optimize consumption. The system monitors and controls appliances by turning them on and off when needed and purchasing the energy required at the time and place that its most economical. Eventually, the AI system will be able to manage the buildings' own energy generation and enable each building to achieve zero-emission certification.

To train the AI agent and establish the first case of use, the Hotel sector was selected. It is estimated that a 5-star hotel spends on average more than €1 million in electricity per year on average, and 3 and 4-star hotels spend around €500,000. The commercialization of this solution is planned for 2023. The main partners in this area of work are Hoteles Poseidón.

4. Fintech

The Fintech vertical revenues come through the subsidiary, Zona Value Global SL which has two different lines of business:

A. Financial education services

Zona Value Global SL provides financial education on-line courses through **Intefi**, with presence in 21 countries.

These on-line educational services offers its students some 420 degrees certified by the Universidad Pontificia de Salamanca and the Universidad Isabel I, together with access to continuous training through 2,100 hours of programs in Zonavalue TV.

The teaching content includes a wide range of courses such a financial markets master degree, the courses needed to become a professional advisor in Europe, small video courses, video masterclass etc: All os them on-line and around the micro-learning way of teaching.

B. Investment Advisory services

Kau Markets EAF and Savers AI are two regulated companies in Spain and EEUU focused in giving financial advisement. Kau Markets EAF is offering this services in the market since 2015 while Saivers is doing it since 2021.

Between their services this two companies are already offering investment strategies with AI for two distinct customer segments:
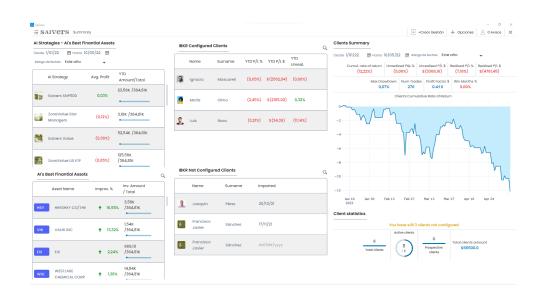
Retail Investors:

In the US, the solution is distributed via Saivers AI (www.saivers.com) on https://trade.collective2.com/, an "alternative" investment marketplace. The same AI investment strategies are also offered in Europe through KAU Markets EAF

Institutional Investors:

The Saivers Professional Platform is being developed for institutional advisory firms such as securities firms, banks, brokers and financial advisors, to improve the level of service offered to their respective clients and will be available during 2023.

CUSTOMER DASHBOARD

Source: Substrate AI

In the financials vertical Substrate AI works alongside partners such as with Mapfre, Saxo Bank, Andbank, Exante, Interactive Brokers and Validea, an American strategies seller.

5. Human Resources

Fleebe AI

Your courses plan

Talent detection and empowering is the core business activity of the HR vertical. To execute on its revenue generating strategy, Substrate AI has developed two complementary solutions under its subsidiary Fleebe:

A. Looking for "the job of your life" as a Service.

Based in the business acquired to Summon Press, Fleebe is working in launching joblers.net a B2C subscription service that helps users look for a job, prepare their CVs and letter of introduction, complete the right training for the job and provide first access to job vacancies in the Fleebe company ecosystem.

The whole process managed by an AI virtual assistant that interacts with the client to accompany them during the journey. The wizard helps the user by asking a series of questions, such as to consider their real objectives and preferences for the format in which they would like to receive training. It then helps them find the most appropriate training courses they require to meet their professional and/or personal needs.

Joblers will earn revenues from advertising as well, in the same way that Summon Press used to do with its 180 million visitors per year together with the subscription revenues.

B. Fleebe corporate, a solution aimed at companies.

Fleebe Corporate is an HR platform that aims to increase employee satisfaction in the workplace, help companies hire talent, retain talent, identify hidden talent in their organizations, boost internal promotion and offer their employees a career plan that engages them with the business project they work for.

The solution provides employees with an AI assistant for training and career planning that helps them focus in order achieve their professional goals through a training plan and continuous follow-up and provides the organization with all the data needed to fulfill the goals hire talent, retain talent, identify hidden talent in their organizations.

The main partners in this area of work are Plain Concepts, and Mapfre.

FLEEBE CORPORATE: THE DASHBOARD

Source: Substrate AI

6. Agritech

Substrate is working on two solutions, one in the field of dairy farming and one in agriculture.

Boalvet is the Substrate AI subsidiary in the field of dairy farming selling their solutions as a AI farm manager to enhance the quality and the profitability of the production of the farms

A. Precision Animal Milking (PAM) in Dairy Farms:

In Europe (EU+UK) there are about 23 million dairy cows, 25 million sheep and 13 million dairy goats producing 160 million (97% of the total), 2.2 million and 2.7 million tons of raw milk per year, respectively. It is an €90bn per year market based on current cow raw milk prices.

PAM is a comprehensive dairy farm management system for cows, sheep and goats that aims to improve the quality and quantity of milk produced. The farms where PAM is already in operation, mainly dairy goats, have increased profitability per animal by more than 35% and reduced expenditure on medication.

PAM is currently marketed by Substrate AI through Boalvet and collaborates with multinational companies in the field of animal feed and disease treatments with herbs and food supplements, with the aim of reducing the use of drugs and antibiotics.

The main partners in this area of work are Delaval, Resco, Greenvet, Fertiprado and Cereales Montoya.

B. Agriculture farming: **Cannabis Crop Yield Improvement System (CANN)**

Substrate is developing this software product in partnership with Ornavera, a start-ups who in turn sells hardware for data gathering in farms and will sell this AI solution as part of their current service offering.

The medical cannabis industry has grown exponentially around the world, as a new alternative to traditional crops. Sales of medical cannabis products in Europe generated between €230-250 million in 2019 with Germany, Italy and Holland being the countries with the largest markets.

Appropriate pest control and ensuring optimal levels of tetrahydro-cannabinol ("THC") are necessary to make a cannabis farm profitable.

Substrate AI's technology provides a solution that allows farmers to take decisions about the crop without the need to take years of training agents. With only the data from a research article, related to the various variables of cannabis cultivation together with the different possible pests and their proliferation, agents are trained and can move on to the phase of working in real time on the plantation.

In 2023, a solution based in this development, a plug and play pest control solution, will be added to the Azure Marketplace in collaboration with Plain Concepts. The widespread commercialization of this solution is planned for 2023.

The main partners in this area of work are Bhalutek Hemp and Ornavera

Financial Forecasts

We see 2022 as a transition year for Substrate AI with much of its numbers distorted by the recent acquisitions and start-up activity combined with the announced one-off €11.5 million write-off to the value of its Intangible Assets. As a quick summary of events, the company is expected to have burned around €2 million between operation losses and working capital requirements, from an enlarged business group.

We look for 2022 revenues of €3.3 million (double the €1.6 million generated in 2021) to rise to €5.9 million in 2023. The build up of costs from new acquisitions and hires of employees (up by an expected 71% in 2022) are likely to fuel the expected 79% increase in 2023 revenues. Again, if we adjust for 4D Médica (2023 will bring 12 months of activity vs 8 months in 2022) together with the already contracted R&D tax income, organic growth is estimated at 35%.

In tamdem with the expected strong growth in reported revenues, we expect costs to lag behind in 2023 and 2024 as the management is likely to focus on employee productivity. As a result, we expect Substrate AI to become a cash-flow break-even in 2024.

REVENUE FORECASTS:

(€ million)	Revenues			y-o-y growth	
	2022e	**2023e**	**2024e**	**23/22**	**23/24**
AI	0,4	1,2	1,6	231%	41%
MedTech	1,1	2,0	2,5	90%	25%
Energy	0,0	0,1	0,3	n.a.	220%
FinTech	0,9	1,2	1,6	30%	30%
HR	0,7	0,9	1,2	30%	25%
AgriTech	0,3	0,5	0,9	100%	70%
Total	**3,3**	**5,9**	**8,0**	**79%**	**36%**

Source: Checkpoint estimates

We are estimating 2023 to a year of strong organic growth, as much of the new spend in new hires begins to take ints full effect in revenue growth.

1. **AI Division (24 employees):** We are expecting the AI division to be the strongest performer (coming from a low base) with revenues of €1.2 million in 2023 as it benefits from the launch of the two products in the Azure Market place, a pick up in consultancy activity and an already contracted R&D income (from an AIE special purpose vehicle to attract tax driven investors) of €750k.

At present, this division has 24 employees (also providing general services to the subsidiaries) and on a per employee basis, our expected revenues are equivalent to €50k per employee and we expect a higher number going into 2024. The team is mainly responsible for new product development and the source of much of the future growth at Substrate AI.

2. **MedTech Division (8 employees):** we are expecting 90% growth to €2.0 million in 2023 (and 25% on a pro-forma basis). The introduction of an AI product, following the May 2022 acquisition, is already proving an advantage in the sale and servicing of their veterinary imaging equipments together with less business interruptions from the passing of the Covid-19 pandemic.

We are also positive for 2024 with an estimated revenue growth of 25% to €2.5 million given that 4D Médica is expected to enter the human health space (up until now was barred by contract following an earlier spin-off).

3. Energy Division (0 employees, managed by AI Division):

Time and effort has already gone into this Energy division, which is due to start selling its AI solutions in 2023. With a strategic alliance with Canadian Solar for solar farms and Hoteles Poseidón for the hotel sector, we are confident that Substrate AI can generate our forecasted revenues of €100k.

Going into 2024, we are estimating a 220% increase to €320k as the business momentum gathers pace. Both the solar farm space (there are already 885 GW installed in the world) and the hotel energy management systems (Spain is a hotel powerhouse) are two growth areas that form part of the global efforts to reduce CO_2 emissions.

4. Fintech Division (20 employees):

It is expected to be the highest revenue earner in 2022 with €0.9 million, mostly because is the original business of Substrate AI and has the highest

number of employees of any of the verticals (20). Despite being the largest division, 2022 is proving to be a slower than expected year given that some employees were diverted into to the BME Growth listing process and some of the acquisition activity, resulting in a productivity decline.

Going into 2023 and 2024, we expect revenues to reach €1.2 million (+30%) and €1.6 million (+30%) respectively, as both productivity and new product additions (financial education courses) enhance the revenue potential of this division.

5. Human Resources Division (9 employees):

With 9 employees, it is the second largest vertical for Substrate AI and so far it has benefited from the acquisition of Summon. We are expecting €0.7 million in revenues in 2022 (mostly from advertising in their respective portals) and an expected 30% growth to €0.9 in 2023 with the launch of new portals.

Going into 2024, we remain optimistic that the Fleebe portals (both for individuals and corporates) and the newly launch Joblers one, will continue to report sustained levels of growth to the €1.2 million forecasted revenues.

6. AgriTech Division (5 employees):

A Substrate AI created start-up, Boalvet has had a strong first year of operation (2022) with €250k in expected revenues. The AI solutions for the management of milking operations (in Spain for now) is gaining acceptance in he market and will be soon be seen in the larger cow milking operations (2022 was mainly about goat milking operations).

We are expecting a 100% increase in revenues in 2023 to €500k as a result and another 70% in 2024 to €850k. The tangible (proven) productivity gains from using AI in the milking operations provides a good base from which to grow strongly going forwards.

Substrate AI has identified sectors of the economy where the use of Next Generation AI software can make a significant difference. Smaller companies, i.e. their natural competitors, are more likely to be less advanced as far as digitalization is concerned and that is the key competitive advantage of Substrate AI going forwards.

PROFIT AND LOSS ACCOUNT

Euros (000´)	2021	2022e	2023e	2024e
Net turnover	**1.600**	**3.288**	**5.884**	**8.015**
Cost of goods sold	-2	-500	-874	-1.125
Other operating income	27	70	30	35
Gross margin	**1.625**	**2.858**	**5.040**	**6.924**
% margin	*100%*	*85%*	*85%*	*86%*
Capitalization of R&D expenses	408	750	2.250	2.250
Personnel expenses	-1.374	-2.853	-3.643	-4.137
Other operating expenses	-1.352	-1.822	-2.369	-2.647
Depreciation of fixed assets	-305	-2.600	-1.750	-1.780
Subsidies and others	172	0	0	0
Gain/losses on write-downs	6	-11.534	0	0
Operating Profits	**-819**	**-15.201**	**-472**	**611**
% margin	*-51%*	*-462%*	*-8%*	*8%*
Ebitda	**-521**	**-1.067**	**1.278**	**2.391**
% margin	*-33%*	*-32%*	*22%*	*30%*
Ebitda (cash)	**-929**	**-1.817**	**-972**	**141**
% margin	*-58%*	*-55%*	*-17%*	*2%*
Financial expenses	-6	-48	-114	-158
+/- value of fin. instruments	107	0	0	0
FX differences	-7	25	0	0
+/- on sale of fin. instruments	8	7	0	0
Net Financial expenses	**101**	**-16**	**-114**	**-158**
Profit before Tax	**-718**	**-15.217**	**-586**	**453**
Income taxes	91	0	0	0
Consolidated Net Profit	**-627**	**-15.217**	**-586**	**453**
Profit attributable parent company	-607	-14.912	-574	444
Minority interests	-21	-61	-59	27
Cash flow	-717	-1.528	-1.074	-26

Source: Substrate AI and Checkpoint estimates

substrate **AI**

OPERATING COSTS FORECASTS:

The cost structure of Substrate AI is a mixture of a traditional Software business where personnel expenses tend to be the highest cost item and the costs brought in by the different acquired and start-up businesses under the different verticals.

In 2022, we expect **€4.7 million of cash fixed costs**, with personnel expenses being **€2.9 million** or 61% of the total. With 66 employees on board during 2022, this represents an average employee cost of €44k, in line with the expected costs in a Software services based company in Spain.

Other operating expenses of **€1.8 million are related to the employee overheads and third party expenses** such as consultancy services, rental costs, energy costs, insurance costs, etc. On a per employee basis, it represents €27k.

In addition, there are an expected **€500k of Cost of Goods Sold**, mainly associated to the 4D Médica subsidiary given that is business model relies on the acquisition of third party veterinary imaging equipment.

In 1H2022, the company decided to **amortize in one single write-off charge some €11.5 million of Goodwill** from past acquisitions (€17.3 still to be amortized). This will bring the future annual amortizations of Goodwill to an estimated €1.7 million annually.

Going forwards, we expect the cost base of the company to rise by less than the growth of the businesses revenues, which is expected to result in a steady improvement in the Ebitda margin.

The total fixed cost base is expected to rise by **29% in 2023 to €6.0 million** and by **13% in 2024 to €6.8 million**

> **Personnel expenses:** we expect the headcount to rise by 12% in 2023, to 74 employees, and 14% in 2023, to 84 employees, respectively to yield personnel cost increases of 28% and 14% respectively.

> **Other operating expenses:** we expect Substrate AI to lift them by 30% in 2023 and 12% in 2024.

BALANCE SHEET AND NON-OPERATING COSTS FORECASTS:

Substrate AI has a fairly simple €20.2 million Balance Sheet structure, with Assets mainly dominated by Intangibles (86%) and Liabilities made up of Shareholders Funds (85%). The remainder is made up of Working Capital items (net €1 million) and Net Debt of €0.9 million. These numbers are based on our year-end estimates of 2022.

The €17 million estimated value of its intangible assets is made up mainly of the successive acquisitions of the recent past. We expect to see new additions of Intangible asset value coming from the company work that is accounted as R&D, which is allowed to be capitalized and accounted for as an intangible asset.

Spanish fiscal rules allow for cash-backs of R&D related expenses that have been previously approved by the tax authority. In some instances, companies decide to structure it under an AIE (a special purpose vehicle) to attract tax driven investors which enables companies to monetize the tax savings sooner. As a result, we expect the intangible line to drive Balance Sheet growth in 2023 and 2024, as Substrate AI takes advantage of these rules.

The remaining €3.1 million worth of assets (15% of the total) are made by a mixture of tangible assets, long and short term financial assets, deferred taxation, inventories and trade receivables. We expect them to rise in line with the growth of the business in 2023 and 2024.

On the liability side, the €17.4 million EQUITY line (Shareholders funds) is a mixture of the book value of the 9 share capital increases minus the accumulated losses (including the recent €11.5 million Goodwill write-off) to date.

In addition, financial debts are made up by of bank/finance company loans of around €1.6 million together with the convertible loan amounts owed to Blue Ocean. With the current level of financial debt, we expect costs to rise to €114k and €158k in 2023 and 2024 respectively. We do not forecast any FX gains or losses nor any other extraordinary income or loss of the company.

Based on the accumulated losses of Substrate AI we do not foresee any meaningful company income tax.

BALANCE SHEET

Euros (000´)	2021	2022e	2023e	2024e
NON-CURRENT ASSETS	**30.864**	**17.974**	**18.633**	**19.379**
Intangible assets	29.461	17.087	17.879	18.591
Tangible fixed assets	117	164	229	321
L/T financial investments and other	984	412	183	91
Deferred tax assets	302	311	342	376
CURRENT ASSETS	**1.322**	**2.224**	**2.762**	**3.052**
Inventories	0	337	438	569
Trade and other receivables	638	1.276	1.659	1.825
S/T financial investments and other	408	82	98	117
Cash and cash equivalents	268	528	567	539
TOTAL ASSETS	**32.186**	**20.198**	**21.395**	**22.431**
EQUITY	**26.632**	**17.429**	**17.743**	**18.446**
Capital	2.029	2.232	2.407	2.407
Share premium	26.656	34.267	34.742	34.742
Reserves and other	-2.032	-19.170	-19.506	-18.803
NON-CURRENT LIABILITIES	**430**	**1.075**	**967**	**1.064**
Long-term liabilities	430	1.075	967	1.064
CURRENT LIABILITIES	**5.123**	**1.694**	**2.684**	**2.921**
Short-term financial debts	4.855	1.081	2.041	2.245
Trade and other payables	268	612	643	675
TOTAL LIABILITIES	**33.356**	**20.198**	**21.395**	**22.431**
Working Capital	373	1.001	1.455	1.720
Debtor Turnover (days)	122	106	91	79
Creditor Turnover (days)	44	69	71	64
Cash	676	610	664	657
Short Fiancial Debt	4.855	481	2.041	2.245
Long Term Financial Debt	430	1.075	967	1.064
Net debt	**4.610**	**946**	**2.344**	**2.653**

Source: Substrate AI and Checkpoint estimates

7am, 23rd November 2022

Valuation

We arrive at our target price €1.35 per share by valuing Substrate AI´s businesses at €31.0 million, which is equivalent to 5.3x estimated 2023 sales.

We believe that a business with an estimated reported growth rate of 79% (organic growth of 35%, excluding parent company revenues which are distorted by AIE related revenues) with a strong IP position deserves such a multiple. We expect growth to continue into 2024 at a still strong rate of 36%.

We have modeled Substrate AI into 6 distinct business verticals with 6 different valuation escenarios to provide a Sum-of-the-Parts vision of our target valuation. Although the company does not publish the breakdown of profits by division, we have the revenues for each of the divisions and an estimate of the costs by extrapolating for the number of employees in each of the divisions.

Short term growth estimates have been modeled according to the current sales momentum and our own estimates of the synergistic effect of the AI algorithms in each of the verticals. Nominal long-term growth has been assumed at between 8% and 10% depending on each of the verticals, which we believe it is consistent with a technology based business.

We have applied a WACC of 10% based on the fact we are expecting risks premiums to recover over the next 12 to 18 months. Based on our current estimates, the market is assuming a WACC of 21% to justify the current share price, which we think is excessive.

The stock has been under strong pressure given that it is still a cash-flow negative business and there is limited financial resources in the Balance Sheet to continue to finance the existing level of growth. The company has issued convertible bonds with Alfa Blue Ocean under a structure that has created some share overhang in the market.

Over the next 12 months, it cannot be ruled out that Substrate AI calls the market for additional equity, and until such time the share price may remain under some pressure. Once the financing uncertainty is removed, we expect a strong rebound in the shares of Substrate AI.

(€ million)	Revenues			y-o-y growth	
	2022e	2023e	2024e	23/22	23/24
AI	0,4	1,2	1,6	231%	41%
MedTech	1,1	2,0	2,5	90%	25%
Energy	0,0	0,1	0,3	n.a.	220%
FinTech	0,9	1,2	1,6	30%	30%
HR	0,7	0,9	1,2	30%	25%
AgriTech	0,3	0,5	0,9	100%	70%
Total	**3,3**	**5,9**	**8,0**	**79%**	**36%**

	EV/Sales			Current est. valuation
	2022e	2023e	2024e	(€ millions)
	(x)	(x)	(x)	
AI	6,3	1,9	1,3	2,2
MedTech	1,3	0,7	0,6	1,4
Energy	n.m.	1,9	0,6	0,2
FinTech	1,1	0,9	0,7	1,0
HR	1,3	1,0	0,8	1,0
AgriTech	2,1	1,0	0,6	0,5
EV	**1,8**	**1,0**	**0,7**	**5,9**
Equity Value				4,9
Per share				**€ 0,22**

	EV/Sales			Target est. valuation
	2022e	2023e	2024e	(€ millions)
	(x)	(x)	(x)	
AI	33,1	10,0	7,1	11,6
MedTech	6,9	3,6	2,9	7,3
Energy	n.m.	4,6	3,6	1,0
FinTech	6,0	10,3	3,2	5,5
HR	7,0	5,4	4,3	5,0
AgriTech	10,9	5,4	3,2	2,7
EV	**9,4**	**5,3**	**3,9**	**31,0**
Equity Value				30,0
Per share				**€ 1,35**

Source: Checkpoint estimates

Checkpoint recommendation System

The Checkpoint Recommendation System is based on absolute returns, measured by the upside potential (including dividends and capital reimbursement) over a 12-month time horizon. Checkpoint recommendations (or ratings) for each stock comprises 3 categories: Buy (B),
Neutral (N) and Sell (S).

Buy: the stock is expected to generate total return of over 15% during the next 12 months time horizon
Neutral: the stock is expected to generate total return of -15% to +15% during the next 12 months time
Sell: the stock is expected to generate total return under -15% during the next 12 months time horizon.

History of Checkpoint recommendations (last 12 months)

Date	Stock	Recommen.	Price (€)	Target P.(€)	Period	Analyst
11.11.2021	LLN	BUY	4.38	9.00	12m	Guillermo Serrano
22.02.2022	LLN	BUY	3.24	9.00	12m	Guillermo Serrano
04.05.2022	LLN	BUY	4.06	9.00	12m	Guillermo Serrano
11.08.2022	LLN	BUY	2.50	7.50	12m	Guillermo Serrano
25.10.2022	LLN	BUY	1.84	6.00	12m	Guillermo Serrano
23.11.2022	SAI	BUY	0.22	1.35	12m	Guillermo Serrano

Checkpoint does and seeks to do business with companies covered in its research reports. As a result, investors may take the view this could affect the objectivity of the report and therefore should consider this report as only a single factor in making their investment decision.

Frequency of analyst reports: at present Checkpoint has committed to a quarterly update of Substrate AI financial and operational performance.

Investment horizon: our reports focus mainly on small capitalization and illiquid stocks where standard Venture Capital investment criteria should apply. An investment into a small market capitalization stock should be done on a 3-5 year time horizon in order to realized the full potential of the investment opportunity.

CHECKPOINT