

Since the digital revolution, we have witnessed many innovation waves gushing the business world. Evolutionary technologies are advancing from lab to marketplace; companies are pursuing commercial application; and at the same, unannounced challenges are around every corner. These constant phenomena happening altogether create an ecosystem that promulgates the innovation surge. In this vein, deep tech is the latest entrant in the technological universe. This new wave spans innovative technologies, such as artificial intelligence, synthetic biology, nanotechnology, quantum computing, and other developments. And is an energising force in both the startup and problem-solving realms.

Speaking of which, an increasing amount of startups around the world are moving into deep tech and setting benchmarks in life sciences, food & agri-tech, energy & clean-tech, etc. Amongst such startups, ADGS Computer Systems is setting the standard in deep tech across the Gulf Region. With niche expertise in complex software developments, ADGS is solving problems that were deemed impossible.



ADGS COMPUTER SYSTEMS: THE DEEP TECH TRAILBLAZER OF THE GULF

CHRISTOPHE BILLIOTTET
CEO OF ADGS COMPUTER SYSTEMS

THE BEGINNING & GROWTH

ADGS was founded in 2015 by Christophe Billiottet and is helmed by a small yet passionate cadre. However, Christophe isn't exactly a traditional young entrepreneur. He is a 57 years old Ex-fighter pilot with a history of founding 5 companies since 1994. With ADGS, he finally founded a sustainable purpose, a bridge (Deep Technologies), connecting science with humanity. To see his venture flourish, Christophe and his team opened the doors to brilliant minds and built a small but genius team. Interestingly, many members had Asperger Syndrome, a light autistic behavior characterised by a remarkable focus and persistence, a strong aptitude to recognise patterns, and acute attention to detail. And it became a flourishing ecosystem where they could work and flourish.

The challenge, however, was convincing investors about the core idea of ADGS and why it was worthy of investment. Christophe explains investors weren't able to understand the difference between "digital tech" and "deep tech," and they based the criteria on fast traction, the market size, the competition, and the number of potential customers. Since the market was blurry, and people weren't aware of the technology, it was a hefty challenge keeping the wheels moving. But, the company founded its silver lining with the Qatar Foundation. The organization funded its research for years, along with the founders.

Things changed after 2016 when deep tech started making a resounding effect on the global market. As of now, ADGS is working in 5 major industries: Govt., Military, Oil & Gas, and Healthcare. All of its products are R&D based and seek to bring a paradigm change across the verticals. In Christophe's words, ***"ADGS developed AI algorithms that solve problems you never knew could be solved."***

A BLEEDING-AGE PORTFOLIO

With the increasing digitisation, every business is riding on technology marvels. Needless to say, AI is what everyone's prying. It's one of the futuristic technologies with explosive potential. ADGS has proven this by building robust and innovative algorithms on AI. ***"Artificial Intelligence, Behavioral Biometrics, Natural Language Processing, Biotechnologies or Agent-Based Modelling. These are the technologies that have the power to change our world,"*** says Christophe. AI is also a learner-centric technology and builds its usefulness by learning from data. With proper data analytics, AI algorithms can also predict the precise outcome of future events. In recent years, ABM (Agent-Based Models) has forayed several research areas, stimulating actions and interactions of autonomous agents to understand system behaviors and what drives its outcomes.

Using ABM simulation models, ADGS has built many breakthroughs to stimulate missing data and feed clusters of information into AI engines. It has built tools like CARP (Capital Asset Replacement Prediction), which have redefined how some early adopters and Oil & Gas firms manage their assets and budgets. STROKK used Keystroke Dynamics, a behavioural biometric technology, to tackle the difficulties of 2FA (Two Factor Authentication) while substantially boosting the security of any password in cyber security and FinTech. TASMO (Text Analysis and Semantic Modeling) uses an advanced Natural Language Processing engine to manage Big Data, whether structured or unstructured.

By unifying ABM with AI algorithms, ADGS has driven many impossible resolutions. The combination of ABM with AI, in

particular, has proven to be a reliable model for predicting and creating responses to issues such as COVID-19, building evacuation, military combat output, and other situations when data is scarce. ADGS focuses on determining the best probable response to catastrophic situations by simulating as many instances as possible and comparing the results with an AI engine.

DEEP TECH - SHIELDING AGAINST COVID-19

Although many of Christophe's interlocutors still don't understand ADGS algorithms, its innovations helped turn the tide of COVID-19. Its flagship product PANDEXIT is helping nations reimagine how they are handling the new variants - DELTA andOMICRON. The platform assists decision-makers in identifying and implementing policies and settings to combat the new variants. Until recently, the platform has been successful in fast disseminating policy in several countries. Compared to the modest and insufficient efforts taken to curb the spread of the virus, PANDEXIT is a significant step. Where classic statistical models are overwhelmed by varied data of vaccinated/unvaccinated, variants, preconditions, travels, PANDEXIT, with no additional modifications, can enter new parameters within minutes.

PANDEXIT's efficiency has made it a decisional product that can keep governments a step ahead of the virus, making them proactive. Considering it helped in saving a lot of lives and mitigating the spread, this brilliant invention was declared one of the major health innovations of 2020 at the ***'World Innovation Summit for Health in 2020'***.

THE NEXT INNOVATIVE STEPS

While ADGS had to face a lot in building cognizance for its algorithms, its prowess has been proved. Now, ADGS is working on an ***"Industrial process flows simulator applied to exceptional situations."*** This allows for the simulation of industrial flows and the provision of strategic responses to a disaster. ADGS is preparing its next products, which will simulate errors in a long process that creates the ripple effect.

NOTES FROM CHRISTOPHE'S DESK

"Starting a company must not be a solitary journey: two or three very different and complementary profiles are great elements of future success. You must also start with enough capital and be prepared to not being paid, or just the minimum. Also, the "entry ticket" of what you plan to develop must be high: if you have a nice idea, but that is easily reproducible for a reasonable cost, expect your idea to be copied as soon as it becomes slightly popular. In this case, you must rush for investor money or somebody else will."