Technological investigation of the company -NVIDIA

Objective of the investigation - analysis of NVIDIA's market position, and the impact of innovative CUDA technology on market changes.

Methods of data collection :

- Crunchbase
- Google Search
- LinkedIn
- Glassdoor
- Brand24.

- Statista
- Google Trends
- Owler
- Google Patents
- IEEE Xplore
- TechCrunch

Company profile

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Official name : NVIDIA Corporation

Date of foundation : 1993.04.05

Operational names : GeForce, DGX, DRIVE, CUDA

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Head office : 2788 San Tomas Expressway Santa Clara, California 95051

Global offices : Taiwan, India, Japan, China and Germany

Industry : Technology, gaming, artificial intelligence and computing

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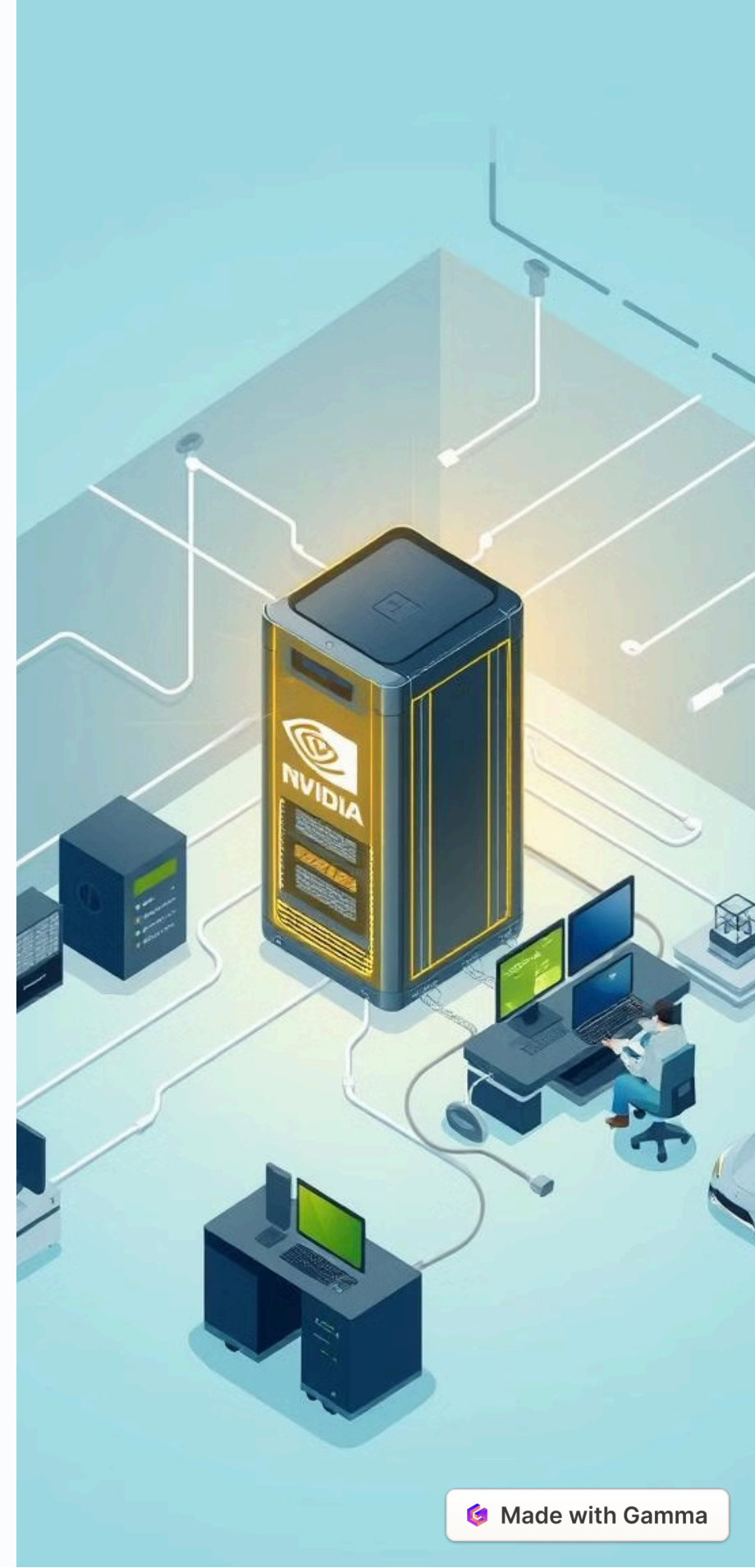**Products/services** : Графічні процесори (GPU), платформи CUDA та TensorRT, GetForce RTX, DGX, DRIVE
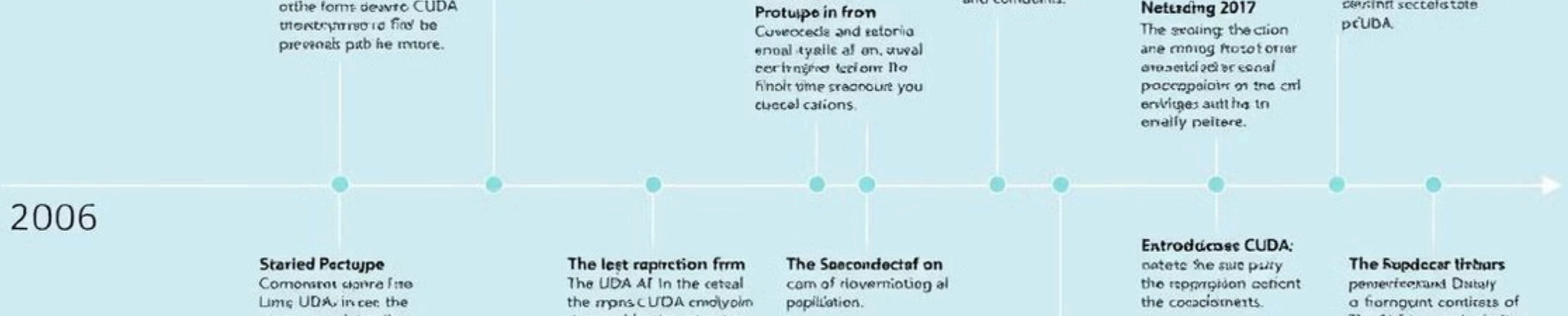
Website : https://www.nvidia.com

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Founders : Jensen Huang, Curtis Prem and Chris Malachowski

Key executives :

- Jensen Huang - CEO,
- Colette Kress - Executive Vice President and Chief Financial Officer

Made with Gamma

The history of CUDA

1 ## Creation in 2006

CUDA was created in 2006 as a revolutionary parallel computing platform that allowed GPUs to accelerate various computational tasks.

2 ## Accelerate computing

CUDA allows you to use GPUs to significantly speed up computing, making it possible to solve complex problems.

3 ## Support for programming languages

The platform supports a wide range of programming languages, including C, C++, Python, and Fortran, making it accessible to various developers.

CUDA has become a key factor in NVIDIA's success, allowing the company to take a leading position in the GPU and computing accelerator market.

Financial overview NVIDIA

Market share

In 2024, NVIDIA held more than 80% of the AI GPU market, where CUDA is key, underscoring its dominant position in this area.

Revenue growth

The company's revenue grew from $10 billion in 2018 to $96 billion in 2024.

Market capitalization

~ **$3,28 trillion** (as of 2024)

The main investors

The Vanguard Group, **BlackRock**.

Market position and reputation NVIDIA

Market leadership
NVIDIA leads the AI GPU market with CUDA accelerator.

Competitors
 AMD, Intel, Qualcomm.

Brand reputation
The CUDA platform has many fans among scientists and businesses.

Customer base
AWS, Microsoft, CUDA – developers, Tesla.

Corporate culture and employee sentiment

Employee feedback
According to Glassdoor, the company is rated 4.5 out of 5 by employees based on their feedback.

Corporate social responsibility (CSR)
Supports the educational program in STEM.

Network and connections

Partnerships and alliances
Azure Microsoft with CUDA, AVS and xAI use CUDA.

Industry affiliation
Membership in the IEEE, the world's largest professional association that brings together specialists from various fields related to electrical engineering, electronics, information technology, and related disciplines.

Relationships with executives
xAI, Tesla - Elon Musk, tech giants using CUDA and other developments from NVIDIA.

The CUDA architecture

Proprietary platform

CUDA is a proprietary parallel computing platform developed by NVIDIA for its GPUs.

Accelerate computing

The platform provides 400 times faster computing than a CPU, making it indispensable for many tasks.

Wide range of industries

CUDA supports a wide range of industries, including gaming, scientific research, medical diagnostics, and many others.

Areas of CUDA application

Autonomous vehicles

CUDA is used to process data from sensors and cameras in autonomous vehicles, ensuring their safe and efficient operation.

Medical diagnostics

CUDA accelerates medical image processing, allowing doctors to make faster and more accurate diagnoses.

Scientific researches

CUDA is used to model complex scientific phenomena such as climate change and particle physics.

Video games and multimedia

CUDA delivers high quality graphics and realistic physics in video games and other multimedia applications.

Due to its versatility and high performance, CUDA is used in various industries, contributing to their development and innovation.

Economic impact

~ 50%

Profit margin in 2024

NVIDIA's high margins reflect the efficiency of its business model and the value of its products.

$364 млрд

GPU market

The GPU market is projected to grow to $364 billion by 2030, opening up new opportunities for NVIDIA.

NVIDIA is a leader in accelerated computing and contributes to the development of many industries, indicating its potential to influence the development of many industries around the world.

Risk assessment

Financial risks

Fluctuations in the semiconductor market and dependence on interest in the CUDA platform, the Trump administration's desire to impose trade duties on Chinese manufacturers.

Operational risks

Global tensions over Taiwan, a global chip designer and manufacturer, including for CUDA.

Risks to reputation

Periodic complaints about NVIDIA's monopoly position with CUDA to government agencies.

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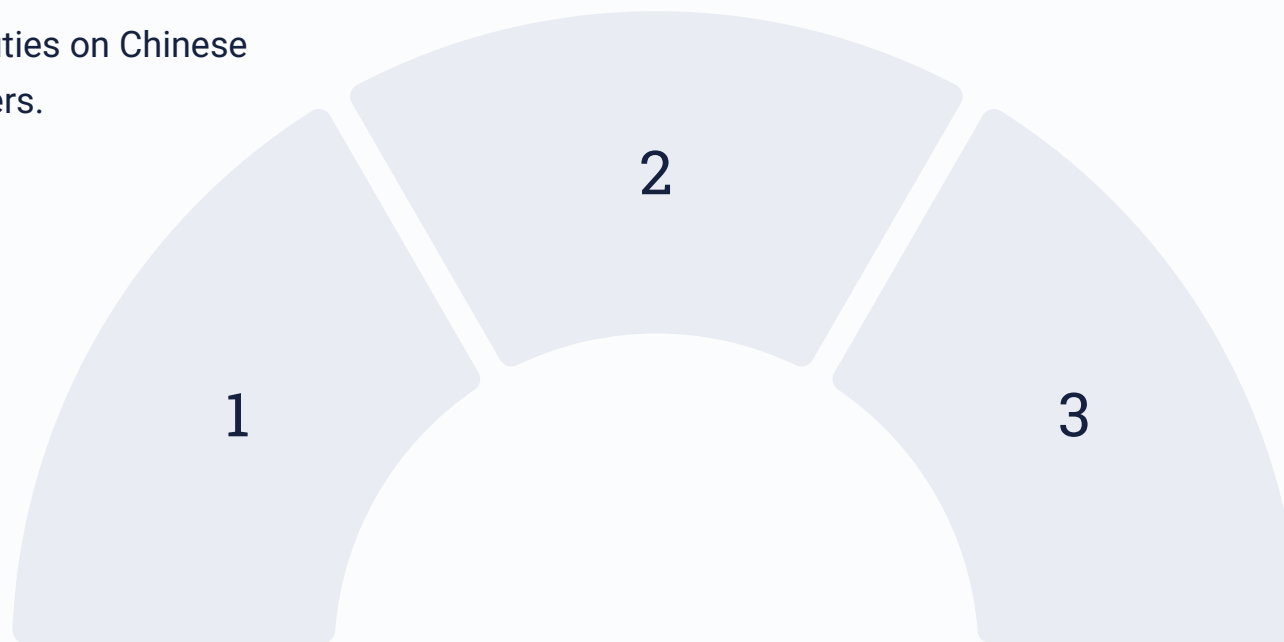
Strategic initiatives

Investing in developing the CUDA platform ecosystem, creating training programs, thematic workshops, and conferences to promote and engage the community..

Risk reduction strategies

Continuous monitoring of AMD's development, especially the development of their ROCm platform.

Conclusion.

- NVIDIA demonstrates gradual revenue growth dynamics. In 2024, revenue amounted to $96 billion due to the growing demand for the use and creation of AI models, the launch of the CUDA platform.

- Thanks to CUDA, the company was able to apply its own AI-based DLSS technology to improve graphics performance and reduce the load compared to existing anti-aliasing methods.

- The company is developing an innovative culture where CUDA developers play a key role. According to Glassdoor, the company has a 4.5 out of 5 rating from employees, and 98% satisfaction with the CEO.

Recommendations.

- Analyze the potential for developing your own applications based on the CUDA platform.

- popularization of the CUDA platform among developers, creation of an eco-space in the form of training programs, seminars and thematic conferences.