Welcome

International Marketing: Analysis for the Internationalization of Semiconductors to Japan

2024 ALISON CORDEIRO SOUSA ESPM

INTERNATIONAL UNDERGRADUATE PROJECT

INTERNATIONALIZATION OF COMPACT CHIPS TO JAPAN

2024 ALISON CORDEIRO SOUSA ESPM

AGENDA

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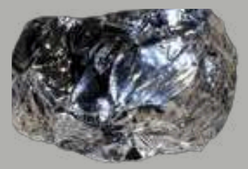
02	GLOBAL VALUE CHAIN
03	SELECTED ACTIVITIES AND COUNTRIES
04	MARKET ACTIVITY ANALYSIS
05	STRATEGIC GROUPS
06	STRATEGY IDENTIFICATION
07	MODE OF OPERATION
08	CONCLUSION

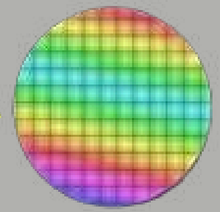
SEMICONDUCTOR SECTOR

Representing 20% of Global GDP (1995-2015), equivalent to $11 trillion
CAGR increase of 9.9% (2020-2026), reaching $841.1 billion

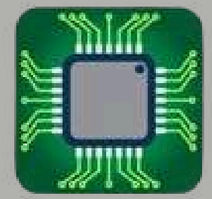
SiO_2
(Silica Sand)



Si
(Silicon)



Wafer
(Lithography)



Chips

GLOBAL VALUE CHAIN

BASIC

Government and private investment

Identification of materials and chemical processes

APPLIED

Specific processes and technologies

+

DEVELOPMENT

Application of research

Development of integrated circuits, software and compact chips

Reuse of previous projects

MATERIALS

Chemicals, gases, minerals and high purity materials

MACHINERY

Specific equipment for wafer production

Creation of controlled environments for the production of integrated systems

Printing integrated circuits in wafer format

Converting wafers into finished chips

Packaging chips in protective frames

Carrying out quality and efficiency tests

Supply of software and support services

Strategic technology

DISTRIBUTION

Original equipment manufacturers

MARKETING

Competitive Marketing

Dissemination of the semiconductor model for product promotion

SELECTED ACTIVITY

BASIC

Government and private investment

Identification of materials and chemical processes

APPLIED

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MARKETING

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SELECTED ACTIVITY

DEVELOPMENT OF COMPACT CHIPS

- Prioritization of Project Links
- Critical Importance in the Value Chain
- Higher Value Added - 40% to 50%
- Specialization and Efficiency
- Competitive Advantages

SELECTED COUNTRIES

Country of Origin

- Participation in Nearly All Links
- 38% Value Added in the Global Value Chain
- High Growth Projection
- Intellectual Expertise

Country of Destination

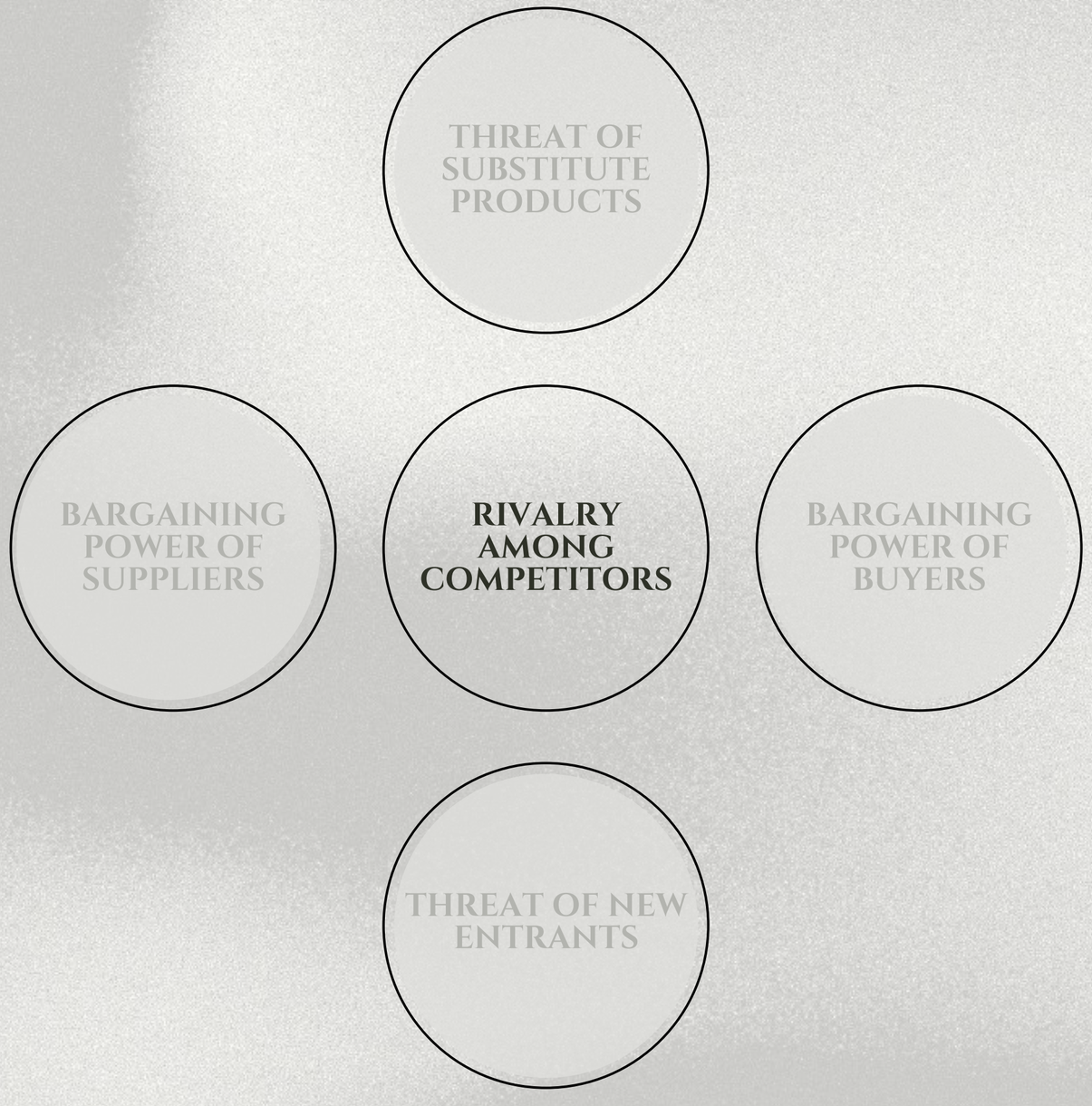
- Incentives
- Lower Vulnerability to Risks
- High Market Projection and Logistic Index

ANALYSIS OF MARKET ATTRACTIVENESS IN JAPAN

2024

ESPM

PORTER'S FORCES



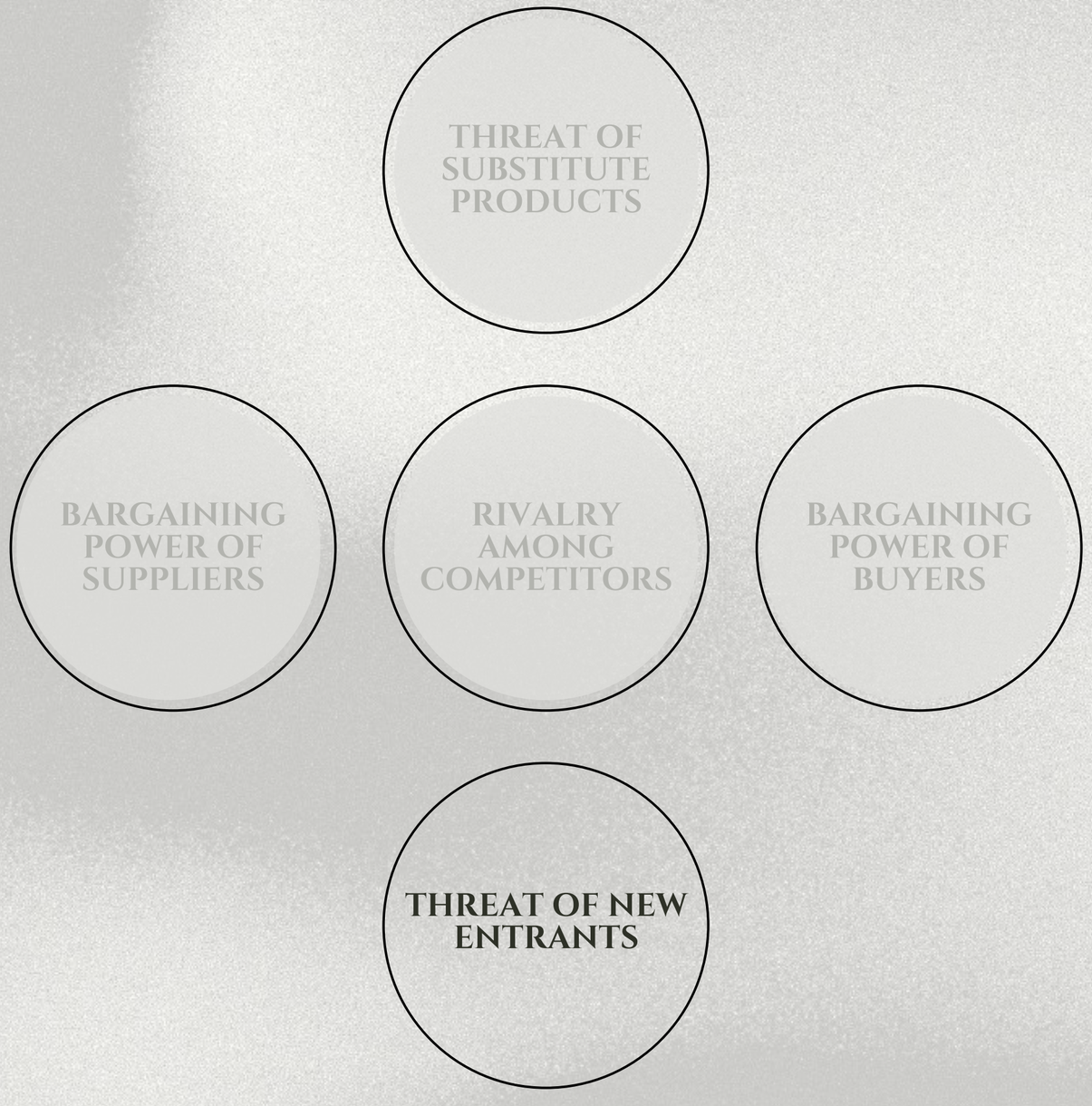
HIGH IMPACT

MULTIPLE COMPANIES

INDUSTRY GIANTS

NO SUPPLY BOTTLENECKS

PORTER'S FORCES



LOW IMPACT

ECONOMIES OF SCALE

FOCUS ON INNOVATION

AGGRESSIVE COMPETITION

PORTER'S FORCES

HIGH IMPACT

FEW SUPPLIERS

UNIQUE AND SPECIFIC PRODUCTS

LOW IMPACT

INTERDEPENDENCE WITH BUYERS

DIFFICULTY IN FORWARD INTEGRATION

PORTER'S FORCES

LOW IMPACT

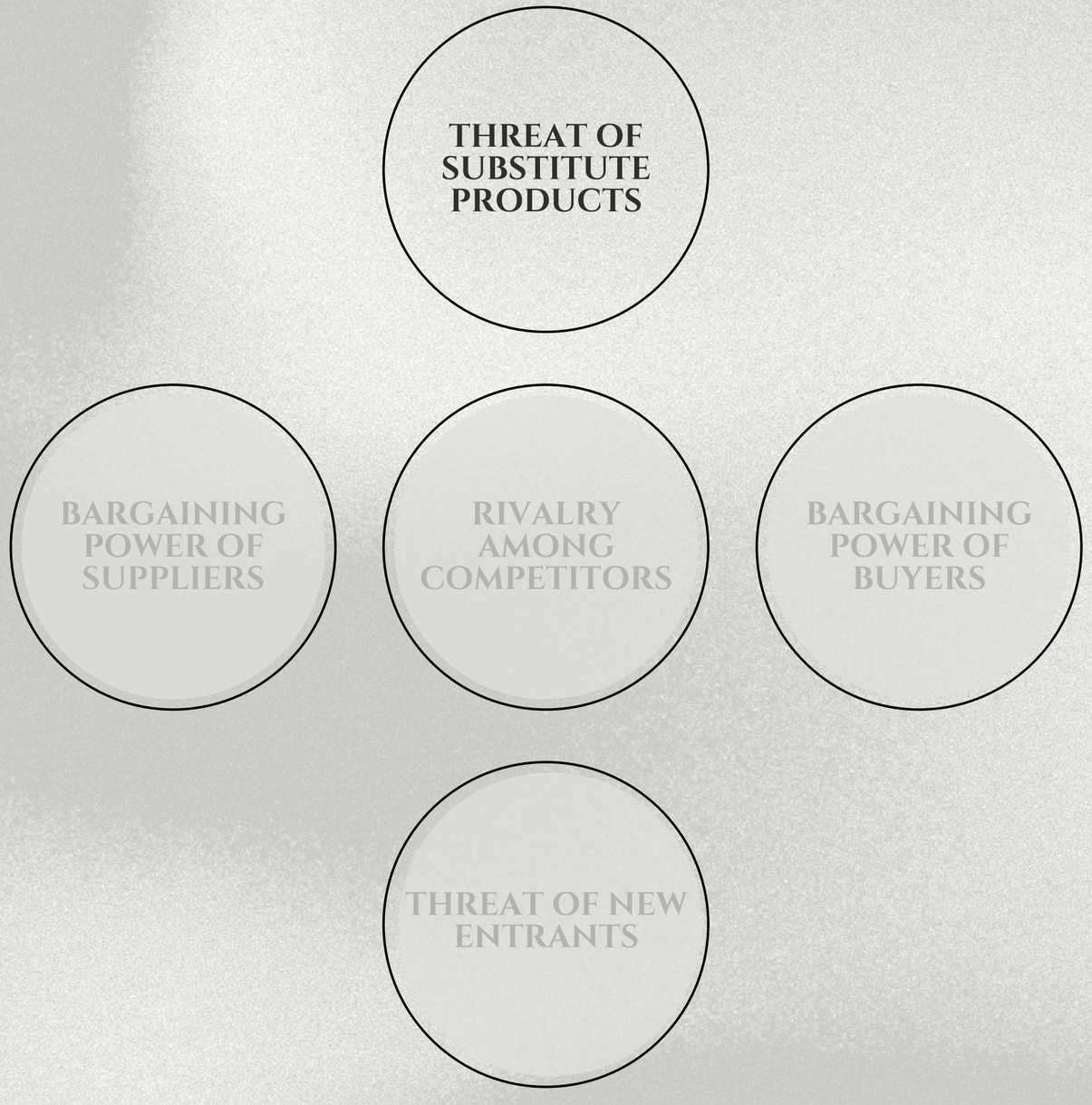
MANY BUYERS

FOCUS ON QUALITY - LOW PRICE BARGAINING POWER

STRATEGIC FRONTS

DIFFICULTY IN BACKWARD INTEGRATION

PORTER'S FORCES



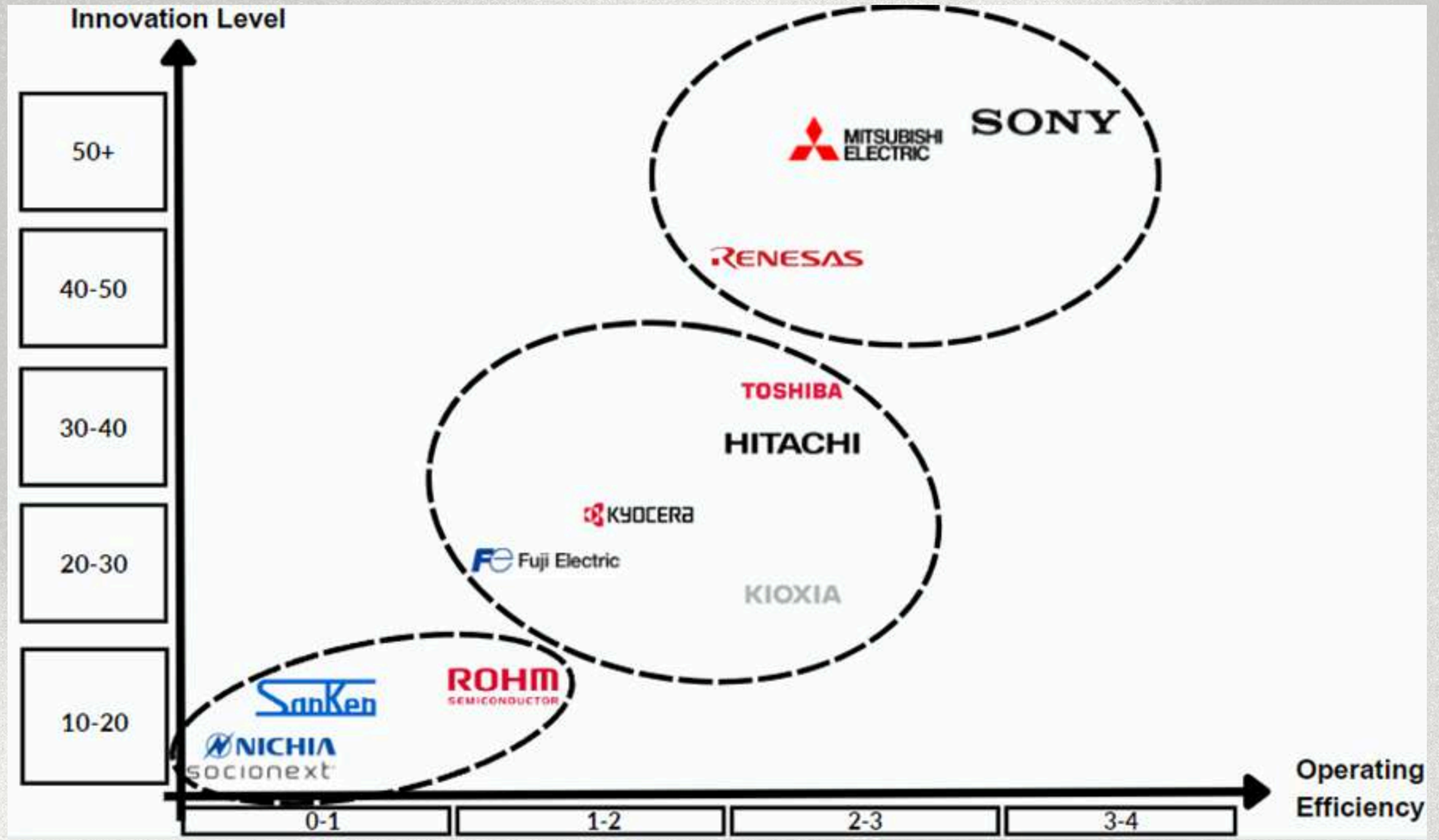
LOW IMPACT

HIGH DEGREE OF SPECIALIZATION

INNOVATIVE TECHNOLOGIES

SPECIFICITY OF FUNCTIONS

STRATEGIC GROUPS



OPERATING STRATEGY

Global Integration

- Operating at economies of scale reduces production costs
- Requires significant product adaptation
- Logistics faces global market competition but has minimal local impact

Local Responsiveness

- High semiconductor consumption in Japan
- Strong regulatory and economic policies
- Government incentives require decisive responses

OPERATING STRATEGY

OPERATING STRATEGY

TRANSNATIONAL STRATEGY

- Specialization and Efficiency
- Meticulous attention
- Local Response
- Direct presence in Japan, maintaining full control over operations

MODE OF OPERATION

ENTRY MODE

RISKS

JOINT-VENTURE

- Faster process;
- Organizational misalignment (cultural);
- ROI (-8%);
- Risk of eliminating up to 10,000 new jobs.

NEC Lenovo

OPPORTUNITIES

PROJECT OFFICE

- $300 million subsidy;
- ROI (+37.01%);
- Positive cash flow in approximately 5 years;
- Urban rental (15%-25%);
- Osaka, Tokyo University;
- Logistics flow (Sagawa, Yamato).

intel Micron NVIDIA

Case: Intel, Micron and Nvidia

They represent 25% of the value-added revenue in the United States:

- **Intel**: Leader in the American sector for microchip development.
- **Micron**: American giant in advancing memory and storage solutions for chips.
- **Nvidia**: American powerhouse in graphical processing and semiconductor AI.

OBJECTIVE:

Develop chips with greater innovation and operational efficiency in East Asia.

RESULTS:

- **Micron**: Cost ($3.6 billion) x Return ($5 billion).
- **Nvidia**: Cost ($740 million) x Return ($1 billion).
- **Intel**: Cost ($300 million) x Return ($1 billion).

Top 3 Companies in Chip Development

CONCLUSION

CHOSEN ACTIVITY

DEVELOPMENT OF COMPACT CHIPS IN JAPAN.

STRATEGY

TRANSNATIONAL

ENTRY MODE

PROJECT OFFICE

WE APPRECIATE YOUR ATTENTION!