# TWO SEMICONDUCTOR BUSINESS TYPES

Role of Standards in Mining and Farming Value Chains

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### Report #1:

- Semiconductor technologies used to develop products have evolved and will continue to evolve along two different technology tracks featuring distinctly different, typically opposite, attributes.
- Viewed on a macro scale, the evolution of semiconductor technology and industry has been continuous and predictable.

## Report #2:

- Relative economic values of product development activities have changed distinctly differently in the two technology tracks. In this report we analyze the migration of value-added activities in semiconductor product development—from product concept to the finished product.
- There has been an important movement of implementing signal processing functions in the purely digital domain, and this trend will continue. When the signal processing function is implemented in the digital domain only, it shares the benefits of the mainstream data processing technology.

#### Report #3:

- There are two distinct business types in the semiconductor industry, for which we use the Farming and Mining metaphor. The two business types are different in all key business attributes.
- The primary driver of the two business types is the presence or absence of standards.

#### Report #4:

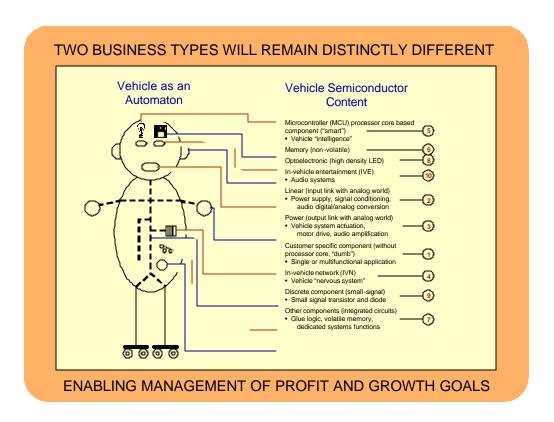
- The two technology and two business tracks intersect and form a technologybusiness matrix in which products made along the two technology tracks are being sold along the two business value chains.
- Matrix field attributes emanate from the nature of the semiconductor industry itself. A successful business strategy has to be in accord with its board position attributes and its explicit "rules-of-engagement."
- The Profit-Growth Strategy Board framework is a management tool for balancing business profit and growth objectives. Profit-Growth Board position attributes are relatively stable and highly predictable in the longer term.

The four reports together form a proven and invaluable framework for assessing and formulating semiconductor strategy. Teleconference support is included.

# IC Industry Profitability and Growth Series

# TWO SEMICONDUCTOR BUSINESS TYPES

Role of Standards in Mining and Farming Value Chains



Prepared for

June 2006

PETROV GROUP

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Petrov Group Announces Its Report "Two Semiconductor Business Types—Role

of Standards in Mining and Farming Value Chains"

PALO ALTO, Calif.—(BUSINESS WIRE)—June 5, 2006—The Petrov Group

today announced its Executive Report on two distinct semiconductor business types

and roles of standards in their value chains. This \$950 report is the result of an in-depth

analysis of more than 50 semiconductor companies and is part of Petrov Group's IC

Industry Profitability and Growth Series of studies and reports.

"Two semiconductor business types are different in all key business attributes; we

describe them using the Mining and Farming metaphors. The two types of businesses

intersect with two semiconductor technologies; together they form a technology-

business decision-making matrix (tool); attributes of each matrix field emanate from the

nature of the semiconductor industry itself. A mix of Mining and Farming business types

enables semiconductor vendors to add value to their business, establish new growth

market positions, and manage the profit-growth profile of their businesses. Our Profit-

Growth Strategy Board framework serves as a tool for achieving that formidable

objective," said Boris Petrov, managing partner of the Petrov Group.

"Standards define the high-level functional and operating specifications of resources,

components, and equipment; their actual implementation is left to the competing

vendors who develop them. A standard could be viewed as a "buffer" between the

semiconductor product vendor and the equipment vendor who is using the product."

The Petrov Group, LLC is a strategy and investment advisory firm focused on the high-

tech industry since 1982. It is recognized for pragmatic due diligence; its methodology

includes proprietary models; several of which are shown at www.petrovgroup.com

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Petrov Group Announces Its Report "The Future of the Semiconductor Industry—

2006 To 2015+"

PALO ALTO, Calif.—(BUSINESS WIRE)—May 1, 2006—The Petrov Group

today announced its executive report titled "The Future of the Semiconductor Industry-

2006 to 2015+." This \$950 report is the result of an in-depth analysis of more than 50

semiconductor companies and of their business, product, and technology portfolios.

"This report is one of the cornerstones of our Profit-Growth Strategy Board (P-G Board)

framework which we use for strategy assessment and formulation assistance to our

clients. The P-G Board helps our clients to balance their profit and growth objectives by

defining boundary conditions and inherent rules for business success. While we all

know that there are fundamental differences among, for example, Intel, Samsung,

Linear, and Marvell, what these companies have and do not have in common is far less

understood," said Boris Petrov, managing partner of the Petrov Group.

"In order to assess and formulate long-term semiconductor strategies one has to

examine the likely evolution of the semiconductor industry and its impact on value-

added activities in semiconductor product development—from product concept to the

finished product. In the process we have uncovered and confirmed several fundamental

rules and patterns that ultimately led to formulation of our P-G Board framework."

This executive report is part of Petrov Group's IC Industry Profitability and Growth

Series of studies and reports.

The Petrov Group, LLC is a strategy and investment advisory firm focused on the high-

tech industry since 1982. It is recognized for pragmatic due diligence; its methodology

includes proprietary models; several of which are shown at www.petrovgroup.com

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# Petrov Group Announces Its Report "Value Migration in Semiconductor Product Development Activities— 2006 To 2015+"

PALO ALTO, Calif.—(BUSINESS WIRE)—May 29, 2006—The Petrov Group today announced its Executive Report on changes in IC product development value chains in the 2006 to 2015+ period. This \$950 report is the result of an in-depth analysis of more than 50 semiconductor companies and is part of Petrov Group's IC Industry Profitability and Growth Series of studies and reports.

"Relative values of product development activities are one of the cornerstones of our Profit-Growth Strategy Board (P-G Board) framework for semiconductor strategy formulation. Semiconductor technologies used to develop products evolve along two different technology tracks featuring distinctly different, typically opposite, attributes. The two technologies intersect with two distinct types of semiconductor businesses for which we use the Farming and Mining metaphor. Together they form a technology-business matrix; attributes of each matrix field emanate from the nature of semiconductor industry itself," said Boris Petrov, managing partner of the Petrov Group.

"In order to formulate successful strategies one has to understand the requirements of the two distinct semiconductor business types and their effect on the potential positions on the Profit-Growth Strategy Board. In this Executive Report we analyze the migration of value-added activities in semiconductor product development—from product concept to the finished product. There has been an important movement of implementing signal processing functions in the purely digital domain, and this trend will continue. When the signal processing function is implemented in the digital domain only, it shares the benefits of the mainstream data processing technology (more accurate, sooner, faster, cheaper, smaller, etc.)"

The Petrov Group, LLC is a strategy and investment advisory firm focused on the high-tech industry since 1982. It is recognized for pragmatic due diligence; its methodology includes proprietary models; several of which are shown at <a href="https://www.petrovgroup.com">www.petrovgroup.com</a>