

Business Strategy of the High-Grade Metals Company

Hitachi Metals IR Day 2016

June 3, 2016

Hitachi Metals, Ltd.

Takehisa Seo

Executive Officer

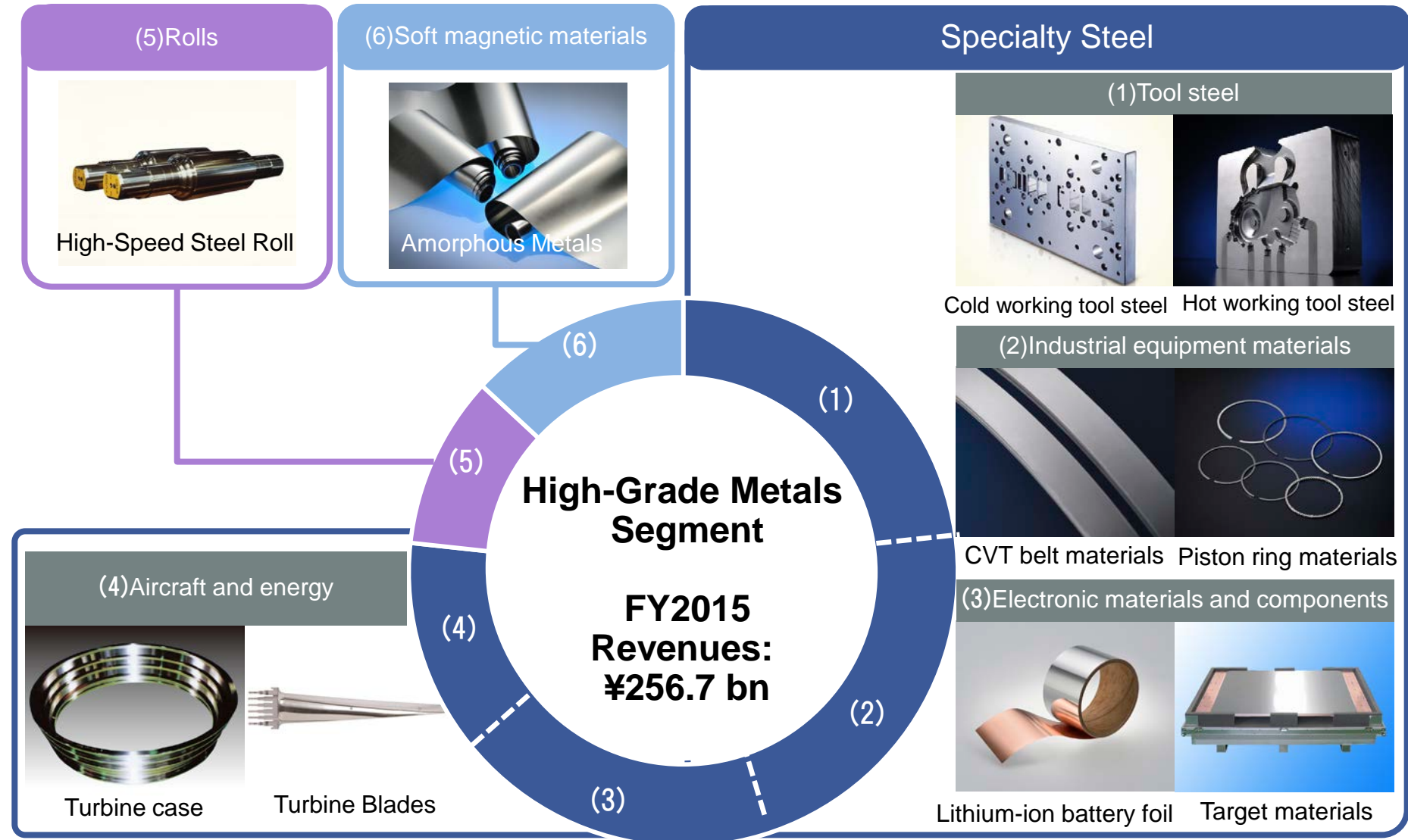
President of the High-Grade Metals Company

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1-1. High-Grade Metals Company: Business Overview



Top manufacturer in Japan with the No. 1 share in numerous products

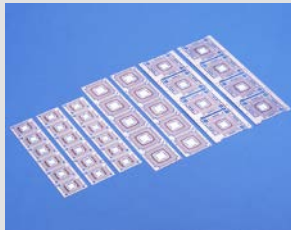
- Yasugi Works is a plant dedicated to high-grade specialty steel, with a history of more than 100 years
- It produces numerous high-end products that are No. 1 in the world

■ A history of leading the business with star products

1980 1990 2000 2010 2020 2030



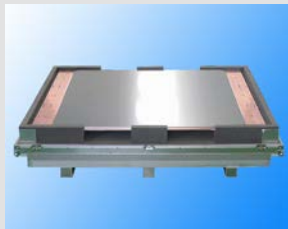
High-grade razor and blade materials



Lead frame materials



Shadow mask materials



Target materials

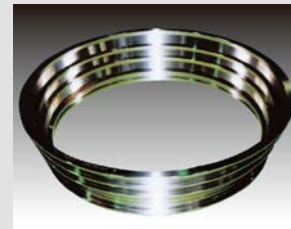


CVT belt materials



Piston ring materials

Received a JPO
Commissioner's Award,
a national commendation for
inventions, in FY2016



Products for the
aircraft and energy
businesses



Next One

FY2015 Results

Revenues: ¥256.7 bn; Adjusted operating income: ¥27.0 bn (10.5%)

■ Strengthening the business base

- 24-ton vacuum induction melting and casting furnace (VIM) installed at the Yasugi Works (began operation in March 2015)
- Increased piston ring production capacity at the China plant (began operation in August 2015)
- Sold part of shares held in Hitachi Tool Engineering, Ltd. (excluded from consolidation in April 2015)

■ Establishing a framework for global expansion of tool steel sales

- Rebuilt the branding for the specialty steel business (October 2015)
- Established Diehl Tool Steel Inc., a tool steel distribution subsidiary in North America (November 2015)
- Launch mass production of SLD-i™, a new type of cold working tool steel (April 2016)

■ Expanding the aircraft and energy businesses

- Launched mass production at Japan Aeroforge, Ltd. (began operation in April 2013)
- Made Hitachi Metals MMC Superalloy, Ltd. a subsidiary (July 2014)
- Installed a large, 840-ton ring mill (began operation in November 2015)

1-4. Strategic Investment Aimed at Remodeling the Specialty Steel Business Portfolio (1)

■ Joint Ventures and M&A (Expanding business domains)

Strengthening the Aircraft and Energy Business

Japan Aeroforge, Ltd.

Kurashiki, Okayama Prefecture



- Established in January 2011 (41% equity)
- World's largest 50,000-ton die forging press

- Expanded mass production of long turbine blades

Hitachi Metals MMC Superalloy, Ltd.

Okegawa, Saitama Prefecture



- Consolidated in July 2014 (51% equity)
- 840-ton ring mill began operation in Nov. 2015

- Mass production by large ring mill approved (scheduled for the summer of 2016)

1-5. Strategic Investment Aimed at Remodeling the Specialty Steel Business Portfolio (2)

■ Reinforcing upstream process at Yasugi Works (Achieving differentiation and “black box” status)

Increasing production of CVT belt materials

24-ton VIM furnace
(began operation in May 2015)

World's largest



CVT belt melting furnace approval
(expected in summer of 2016)

- Also possible to use for aircraft materials
⇒ pursue melting approval

Improving competitiveness of tool steel products

New melting facility
(began operation in April 2016)

Yasugi original technology



Highly acclaimed
SLD-i™
New cold working
tool steel

10,000-ton free forge press
(scheduled to begin operation in FY2017)



New hot working
tool steel under
development

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2. Market Environment

■ Demand for environmentally-friendly products is expanding as environmental regulations are tightened and the need for energy-efficiency increases

		2010	2015	2020	2025				
Automotive	CO ₂ emissions regulations	130g/km		95g/km		70g/km			
	Percentage of EV and HEV	2%		9%		15%			
Aircraft and Energy	No. of jet aircraft in operation	19,200		26,000		30,000			
	Steam turbine power generation efficiency	42% USC: 600°C		46% A-USC: 760°C					
Need for Products and Technology	Tool steel	■ Mold materials for ultra-high tensile strength steel processing + surface treatment							
	Industrial equipment materials	■ Belt material for continuously variable transmissions (CVT)							
	Aircraft and energy	■ New disk alloy with ultra-high heat resistance							
	Electronic materials and components	■ Cladding material for EV batteries							
	Rolls	■ Rolls for ultra-high tensile strength steel mills							
	Soft magnetic materials	■ Components and materials for EV chargers							

Source: Hitachi Metals forecasts based on various surveys/data

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3-1. 2018 Medium-term Management Plan: Basic Policy and Growth Strategy

■ Basic policy and growth strategy of the High-Grade Metals Company

**Achieve growth globally
by focusing on high-grade products**

- Reap the benefits of major investment and strengthening overseas sales locations
- Grow through M&A (achieve consolidated synergies)

■ 2018 Medium-term Management Plan: Goals

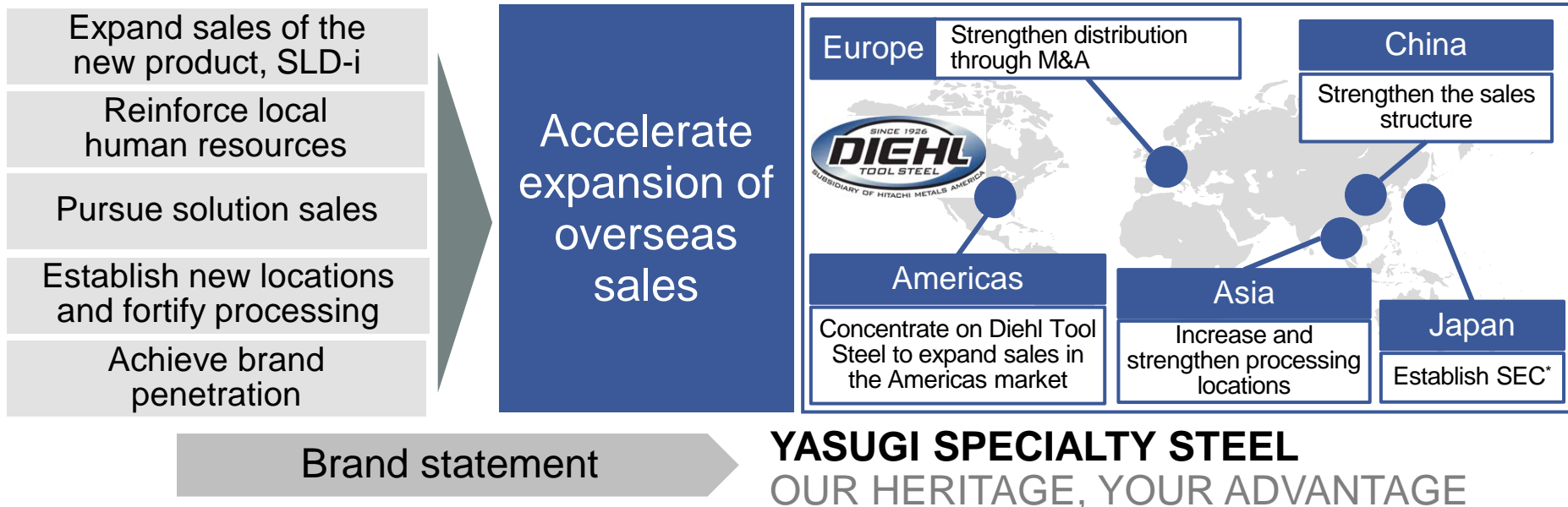
	FY2015 Results (¥120 = US\$1)		FY2018 Goals (¥115 = US\$1)	Change vs. FY2015
Revenues	¥256.7 bn		¥310.0 bn	121%
Adjusted operating income	¥27.0 bn		¥41.0 bn	+ ¥14.0 bn
Adjusted operating margin	10.5%		13.2%	+2.7%
Overseas revenues as a % of total revenues	44%		47%	+3%

■ Key initiatives by business unit

Specialty Steel	Tool steel	Work to expand global sales
	Industrial equipment materials	Accelerate expansion of environmentally-friendly product sales
	Aircraft and energy	Manifest synergies among the three companies and accelerate certification by customers
	Electronic components and materials	Concentrate on new areas: From electronic components to batteries
Rolls		Work to expand overseas sales through new material properties
Soft Magnetic Components and Materials		Accelerate development of applications by consolidating the components business

Key Word for FY2016: Speed up

■ Working to ensure brand penetration and pursue solution sales



Cases of results achieved from solutions-oriented activities

Surface modification technology

- Adopted in mass production for surface treatment of ultra-high tensile strength die molds
- Introduced in the product catalogs of mold and component manufacturers
- Secured initial orders from European auto manufacturers by offering CAE services

CAE analysis technology

Tribec™



FY2018 Tool Steel Revenues: 30% growth vs. FY2015

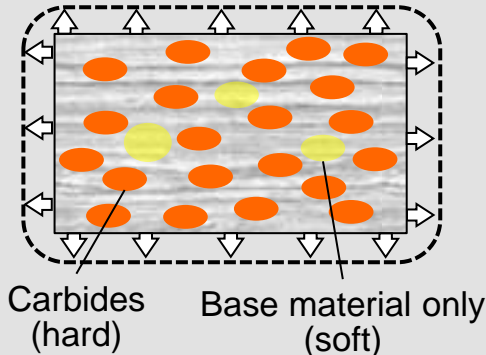
Expand global sales of the new cold working mold steel, SLD-i™

SLD-i properties

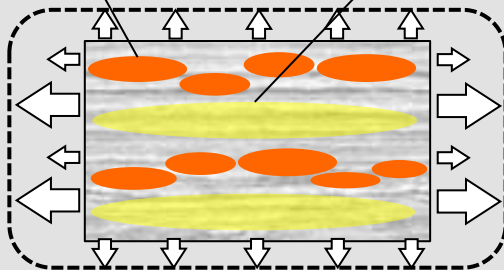
- Achieves improvement in 1) controlling size changes from heat treatment, 2) controlling size changes from aging, and 3) resistance to wear, while maintaining the same composition as the global standard.

- Structural property:
Even distribution of carbides

SLD-i™



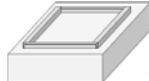
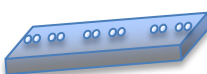



Existing material



- Results of customer evaluations

Improved Mold Life

Target Products	Evaluation Results (compared to existing materials)
Burring punch 	Mold life: 5x or more
Mold for cutting high-tensile strength steel sheet 	Mold life: 7x or longer
Mold for cutting glass film 	Consistent size change from heat treatment
Shearing molding machine blades 	Reshaping: 20% reduction
Fine blanking die 	Die life: 1.4x

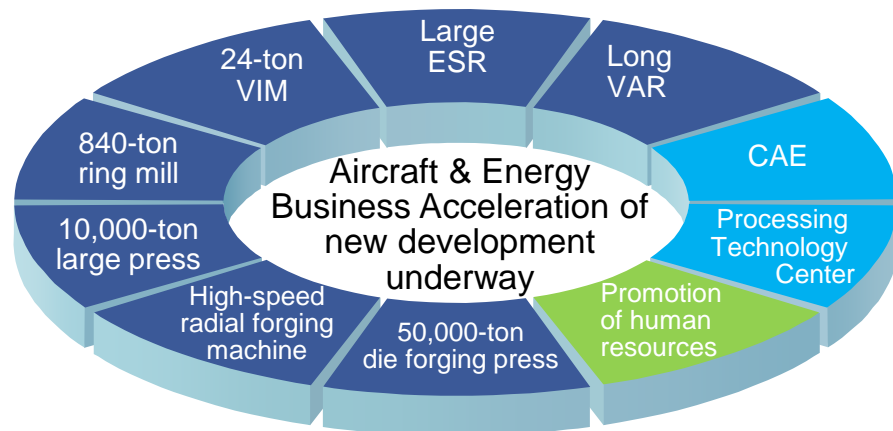
Customer sample evaluation: Good
Mass production of SLD-i begun in April 2016

3-5. Aircraft and Energy: Manifest Synergies Among the Three Companies and Accelerate Certification

Take on the challenge of becoming one of the top four aircraft materials manufacturers in the world

Manifest synergies among the three companies

	2010	2015	2020
Hitachi Metals Yasugi Works		<ul style="list-style-type: none"> • 24-ton VIM • Large VAR 	<ul style="list-style-type: none"> • 10,000-ton free forge press • High-speed radial forging machine
Japan Aeroforge		<ul style="list-style-type: none"> • 50,000-ton die forging press 	
Hitachi Metals MMC Superalloy		<ul style="list-style-type: none"> • Made a consolidated subsidiary • 840-ton ring mill 	



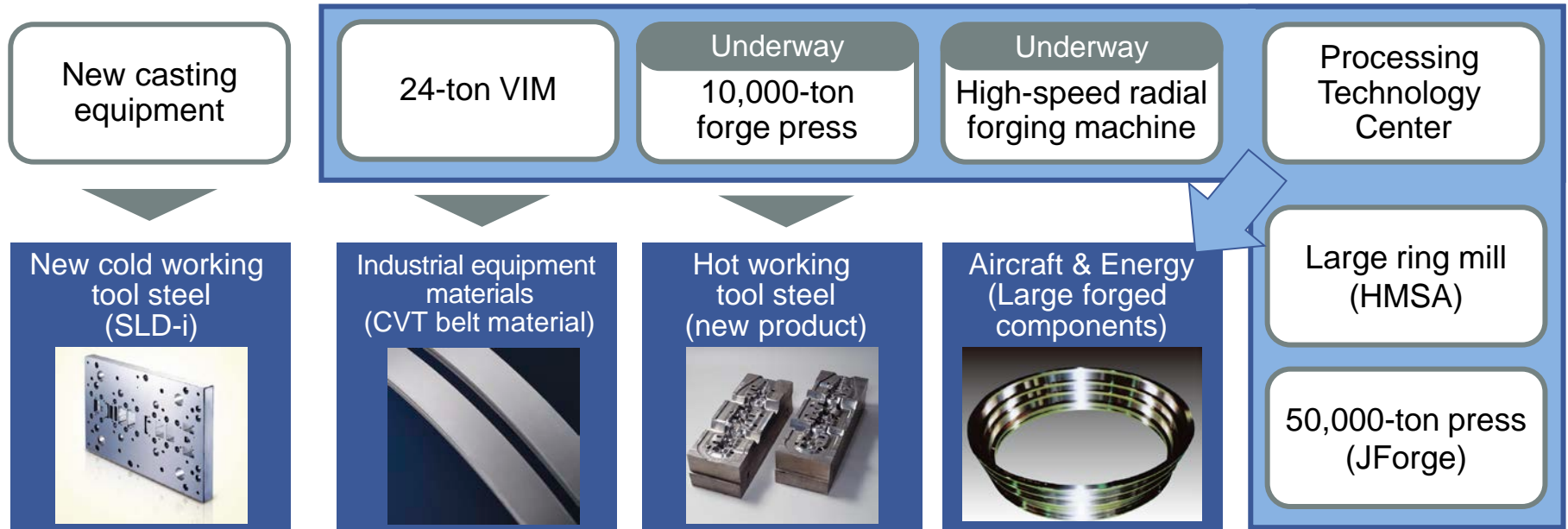
- Engine shaft supplied to Company A
Mass production and supply from January 2016
- Large disks supplied to Company B
Mass production from summer 2016
- Large ring mill development products supplied to Company C
Mass production from summer 2016

FY2025 Sales Goal: Over ¥60 billion

(FY2015 Results: ¥33.5 billion ⇒ FY2018 Plan: ¥37 billion)

3-6. Investment Plans

■ Key investments in the hot-rolling process, the source of competitiveness



■ Strengthening the network for expanding overseas sales

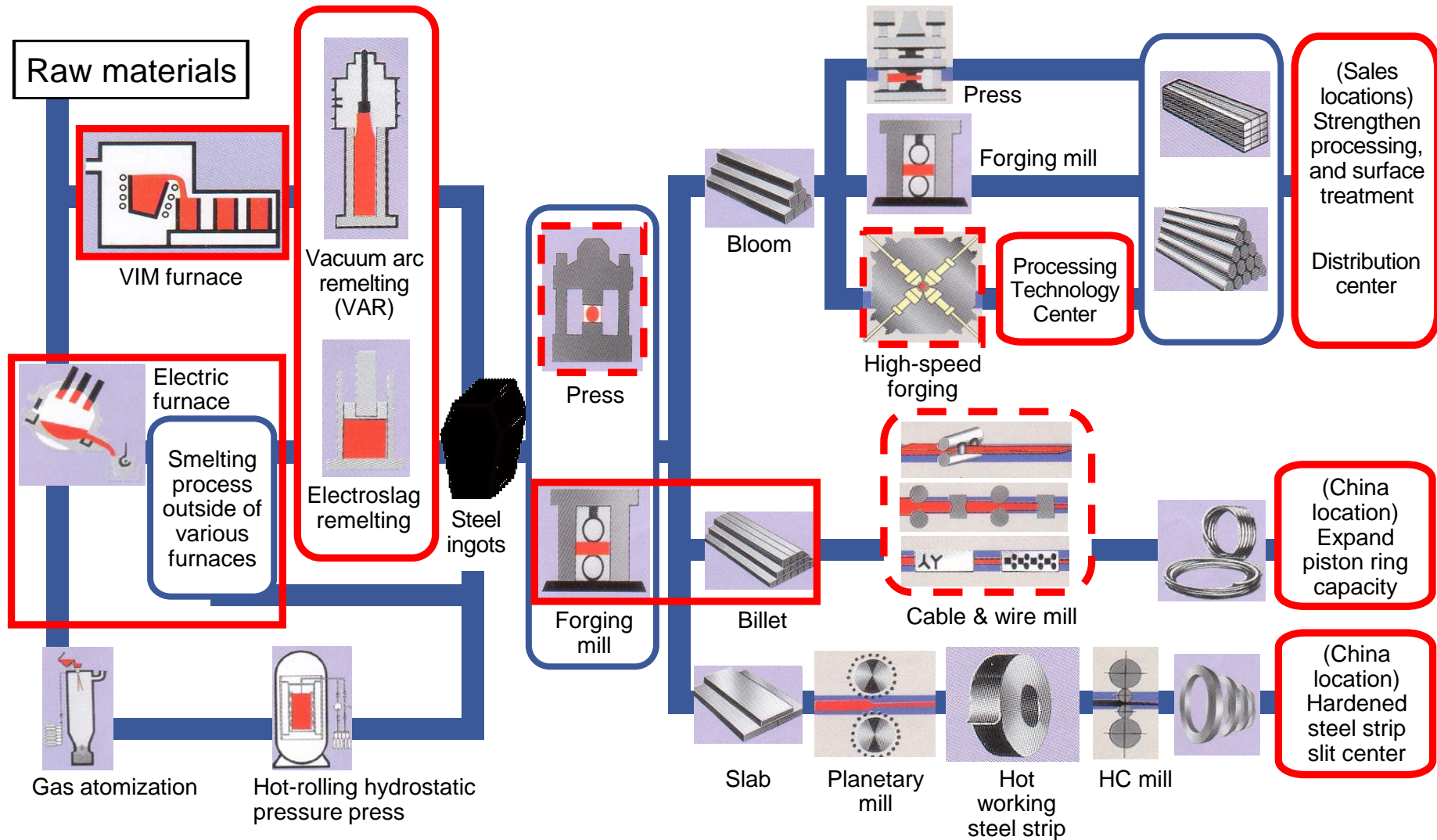
Establish new
distribution location in Europe

Expand and strengthen processing
locations in the U.S. and Asia

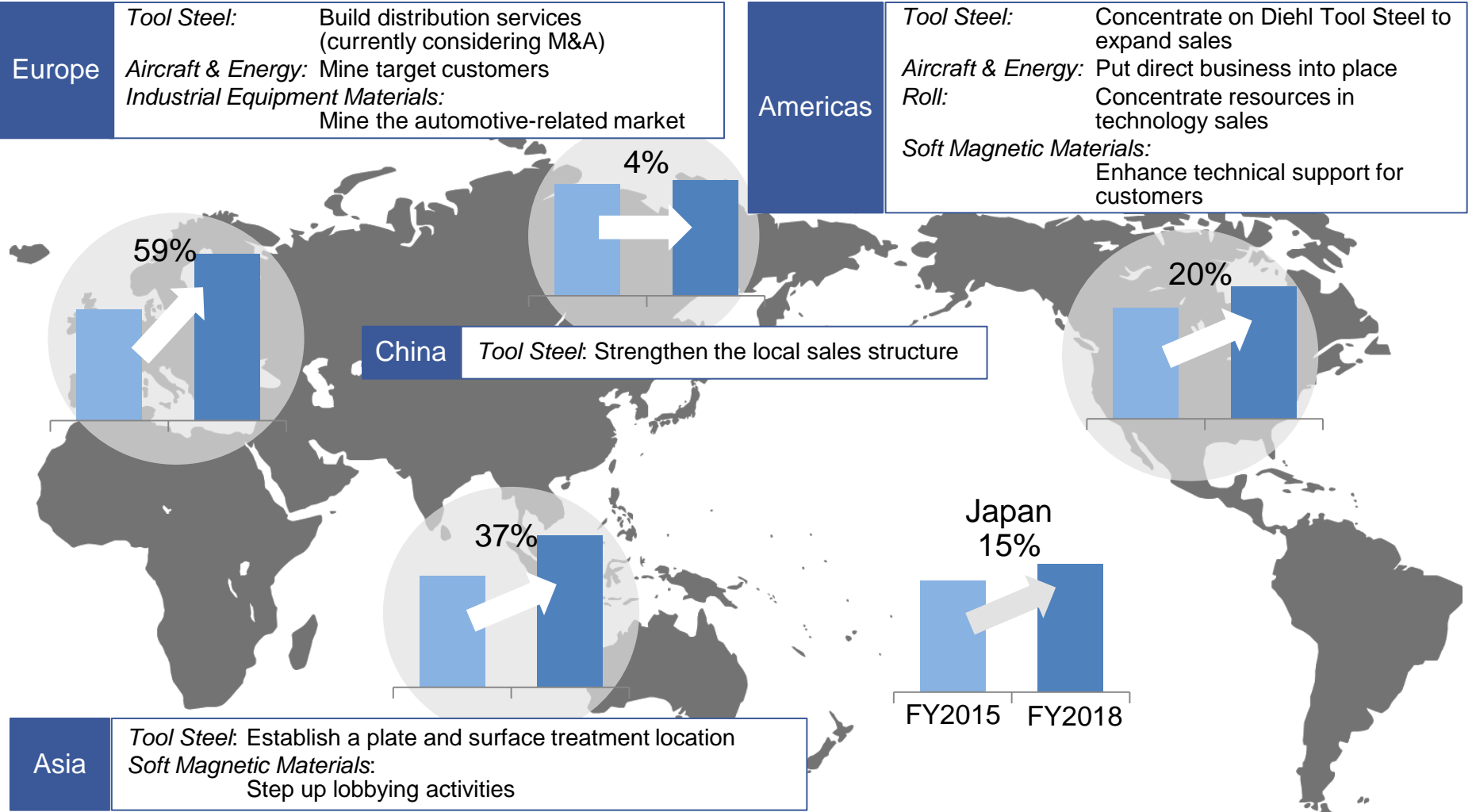
Capital Investment:
¥68 billion (cumulative total for FY2016-FY2018)

3-7. Investment Plans: Yasugi Works

Complete Underway



Overseas revenues as a % of total revenues: 44% (FY2015) ⇒ 47% (FY2018)



The graphs compare FY2018 sales to FY2015 sales, with FY2015 sales indexed to 1.

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**Achieve growth globally by
focusing on high-grade products**

High-Grade Metals Company FY2018 Plan

Revenues: ¥310 billion
Adjusted operating income: ¥41 billion (13.2%)

This document contains forward-looking statements—such as results forecasts and management plans—that are not historical facts. All such forward-looking statements are based upon all available information and upon assumptions and projections that were deemed reasonable at the time the Company prepared this document. Changes to the underlying assumptions or circumstances could cause the actual results to differ substantially. The factors causing such differences include, but are not limited to, the following:

- Changes in economic conditions and regulations in the main markets where the Company operates, particularly Japan, the United States, Asia and Europe
- Sudden changes in technological trends
- Changes in competitive advantage and the capabilities of the Company and its subsidiaries and affiliates to develop and commercialize new products and businesses
- Fluctuations in the status of product markets, exchange rates and international commodity markets
- Changes in financing environment
- The capability of the Company and its subsidiaries and affiliates to cope with fluctuations in product supply and demand, the status of product markets, exchange rates and international commodity markets
- Protection of the Company's intellectual property, and securing of licenses to use the intellectual property of other parties
- Changes in the status of alliances with other parties for product development, etc.
- Fluctuations in Japanese stock markets



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