

CONTENTS

May 2019

Special Edition on Industry

FOREWORD	Shaping a Better Society	1
	Executive Director S. KATO	
CONTRIBUTION	Current Status and Issues of Eco-Machining	2
	Professor Takashi NAKAMURA	
	Visiting professor, Nagoya University (Professor Emeritus of Nagoya Institute of Technology)	
OUTLOOKS	Technical Trends and Vision for Industrial Bearings and Units — Activities Relating to the Shift from "Mono" to "Koto" —	8
	T. ADACHI	
	Technological Innovation Capturing Market Changes	16
	M. IDO	
TECHNICAL PAPER	Development of Medium Carbon Bearing Steel Achieving Life Improvement and Resource Saving	22
	K. KANETANI T. MIKAMI T. SADA	
TECHNICAL REPORTS	Development of Technologies Contributing to the Stable Operation of Steelmaking Steel Production Equipment	28
	A. NAGAYAMA T. MIYACHI K. OTSUKA	
	Technologies Contributing to Reduced Life Cycle Cost of Agricultural and Construction Machinery	38
	T. HIRONAKA M. YAMADA K. KANETANI T. MIO	
	Initiatives for the High Performance of Machine Tool Spindle Bearings	48
	H. HONJO K. HASAMA M. HAMANOUE R. ONISHI	
	Higher Performance of Traction Drive Units for Printing Machines	55
	H. WATANABE	
	IoE Initiatives	61
	Y. YAMAGUCHI	
	Development of High-Quality Grinding Technology Using a CBN Wheel	69
	H. MORITA	
	Development of Process Integration Using a Gear Skiving Center —A Case Study Focusing on the Development of a Synchro-sleeve Gear—	73
	L. ZHANG K. NATSUDA	
	Modeling & Simulations of The Lamp Heating-type Rapid Thermal Processor	78
	M. HATTORI	

NEW PRODUCTS	2 nd Generation Bearing Unit for Pallet Cars on Sintering Machines (Iron and Steel Equipment)	84
	Corrosion Resistant Bearings	85
	Ultra-Thin Deep-Groove Ball Bearing (High-load Capacity Type)	87
	Low Idling Rotational Torque Miniature One-Way Clutch	88
	JTEKT-SignalHop	89
	JTEKT Smart Cutting	91
	GF50MH-70T CBN Crankshaft Grinder	92
	GF16S-25 CBN Small Crankshaft Grinder	94

GLOBAL NETWORK