

# Eleven Projects Key to the Rebirth of Japan and Its Position as World Leader

8

## Innovative Combustion Technology

The plan for the Rising Sun Engine Initiative to Save the World



### Masanori Sugiyama

Toyota Motor Corporation  
Field General Manager, Advanced Power train Engineering Field

12

## Next-Generation Power Electronics

Power Electronics Devices Everywhere, for an Energy-Efficient Society and more Affluent Lifestyles



### Tatsuo Oomori

Mitsubishi Electric Corporation  
Chief Technical Adviser, Corporate Research and Development Group

16

## Structural Materials for Innovation (SM<sup>4</sup>I)



### Teruo Kishi

Innovative Structural Materials Association  
President  
University of Tokyo  
Professor Emeritus  
National Institute for Materials Science  
Advisor Emeritus

20

## Energy Carriers

Becoming a New Energy Society



### Shigeru Muraki

Tokyo Gas Co., Ltd.  
Executive Advisor

24

## Next-Generation Technology for Ocean Resources Exploration

Zipangu in the Ocean Program



### Tetsuro Urabe

University of Tokyo  
Professor Emeritus  
JMEC Executive Adviser  
Commission on the Limits of the Continental Shelf (CLCS) Member

28

## Automated Driving System



### Seigo Kuzumaki

Toyota Motor Corporation  
Chief Safety Technology Officer (CSTO) Secretary  
Advanced Technologies Development Company,  
Advanced Technologies Division  
Project General Manager, Vehicle Safety Planning

32

## Infrastructure Maintenance, Renovation, and Management

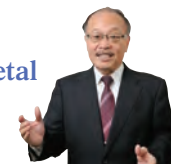


### Yojo Fujino

Yokohama National University  
Institute of Advanced Sciences  
Distinguished Professor

36

## Enhancement of Societal Resiliency against Natural Disasters



### Masayoshi Nakashima

Kyoto University  
Professor  
Disaster Prevention Research Institute

40

## Cyber-security for Critical Infrastructure



### Atsuhiko Goto

Institute of Information Security  
Dean and Professor, Graduate School of Information Security

44

## Technologies for Creating Next-Generation Agriculture, Forestry and Fisheries

Creating Agro-Innovation



### Noboru Noguchi

Hokkaido University Graduate School of Agriculture  
Professor, Research Faculty of Agriculture

48

## Innovative Design/Manufacturing Technologies

New Production 2020 Project



### Naoya Sasaki

Hitachi, Ltd.  
Corporate Chief Engineer, Research & Development Group