The National Program for Innovation - Cross-ministerial Strategic Innovation promotion Program (SIP) -

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Cabinet Office, Japan

Cross-ministerial Strategic Innovation promotion Program (SIP)
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1. Background: National Strategies for FY2014
   • Japan Revitalization Strategy
   • Comprehensive STI Strategy

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National Strategies for FY2014

Three Arrows of the Economic Policies

1st
Bold Monetary Policy

2nd
Flexible Fiscal Policy

3rd
Japan Revitalization Strategy (New Growth Strategy)
Cabinet decision on June 14, 2013

Science and Technology Policies

Comprehensive STI Strategy

✓ Achievement of Council for Science, Technology and Innovation (CSTI)
✓ Cabinet decision on June 7th, 2013
The two Strategies are proposing that CSTI needs to be the stronger headquarters for fostering innovation beyond borders of systems, regulations, ministries and sectors.

Three Arrows for Strengthening CSTI as HQ

1st
Improvement of the process for policy-making
“S&T Budgeting Strategy Committee” and “Action Plans for S&T Priority Measures”

- Prioritized area: “Energy”, “Next-generation infrastructures”, “Local resources”, “Health & Medical”
- Budget for FY2014: ¥335bil

2nd
SIP (Cross-Ministerial Strategic Innovation Promotion Program)

- Budget for FY2014: ¥50bil

3rd
ImpACT (Impulsing PAradigm Change through disruptive Technologies)

- Budget for FY2014-2018: ¥55bil
SIP (Cross-Ministerial Strategic Innovation Promotion Program)

- Governance Structure -

- SIP is aiming to realize Innovation through promoting R&D at all stages by enhancing cross-ministerial cooperation.

- CSTI designates research themes based on the expected extent of impact to solve societal issues and enhance economic growth.

- CSTI appoints Program Director (PD) for each research theme and allocates the budget.
## Prioritized Societal Issues

<table>
<thead>
<tr>
<th>Energy</th>
<th>Themes</th>
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<tr>
<td></td>
<td>Innovative combustion technology</td>
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<td>Next-generation power electronics</td>
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<td>Innovative structural materials</td>
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<td>Energy carrier</td>
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<td>Next-generation ocean resources development technologies</td>
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<tr>
<th>Next-Generation Infrastructures</th>
<th>Themes</th>
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<tr>
<td></td>
<td>Automated driving system</td>
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<td></td>
<td>Technologies for maintenance/upgrading/management of infrastructures</td>
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<td>Reinforcement of resilient function for preventing and mitigating disasters</td>
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<th>Local Resources</th>
<th>Themes</th>
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<tr>
<td></td>
<td>Technologies for creating next-generation agriculture, forestry and fisheries</td>
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<tr>
<td></td>
<td>Innovative design/manufacturing technologies</td>
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Developing new transportation systems including technologies for avoiding accidents and alleviating congestion.

To achieve “Level 2” by the end of the mid-2010s and “Level 3” by early 2020s.

¥2.45 Billion (for FY 2014)

### Definition of Automated Driving Levels

<table>
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<tr>
<th>Automation Level (SIP definition)</th>
<th>Overview</th>
<th>Systems to realize the level</th>
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<tbody>
<tr>
<td>Level 4</td>
<td>All functions of acceleration, steering, and braking are controlled without a driver. Driver is completely uninvolved.</td>
<td>Fully automated driving system</td>
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<tr>
<td>Level 3</td>
<td>Vehicle controls all functions of acceleration, steering, and braking. Driver intervenes in the cases of emergency</td>
<td>Semi automated driving system</td>
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<tr>
<td>Level 2</td>
<td>Simultaneous multiple functions of acceleration, steering, or braking</td>
<td>Safe driving assistance system</td>
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<tr>
<td>Level 1</td>
<td>Single function, either acceleration, steering, or braking</td>
<td>Safe driving assistance system</td>
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### Scope of Research on Automated Driving

- **I** [Development and verification of automated driving system]
  - 1. Dynamic Map
  - 2. Prediction based on ITS information
  - 3. Sensors

- **II** [Basic technologies to reduce traffic fatalities and congestion]
  - 1. Traffic fatality reduction effect estimation method & national shared data base
  - 2. Micro and Micro data analysis and simulation technology
  - 3. Local traffic CO2 emission visualization technology

- **III** [International cooperation]
  - 1. Open research facility
  - 2. Social acceptance
  - 3. Package type infrastructure export

- **IV** [Deployment for next generation urban transport]
  - 1. Enhanced local traffic management
  - 2. Next generation transport system
SIP Research Theme: Automated Driving System

SIP Research Project is reviewed in the Promoting Committee. Currently, three Working Groups (WGs) are established to cover wide variety of topics on Automated Driving System.

Promoting Committee for SIP Automated Driving System Research Project

- **System Implementation WG**
  - Dynamic map
  - Micro and macro data analysis and simulation technology
  - Prediction based on information from ITS
  - Sensing capability enhancement
  - Human Factors
  - System security

- **International cooperation WG**
  - Open research facility
  - Social acceptance

- **Next Generation Urban Transportation WG**
  - Local traffic management enhancement
  - Next-generation public road transport system
Japanese Government is to organize a workshop to share progress of related projects on automated driving systems among experts from Europe, Americas and Asia-Pacific. Details on research projects in SIP will also be presented.

Date: November 17-18, 2014
Venue: United Nations University in Tokyo, Japan

Topics:
1. Dynamic and integrated database of road network and surroundings
2. Perception of driving environment through communication
3. Sharing roles between driver and vehicle system
4. Integrated approach to reduce traffic fatality and injury
5. Next generation transportation systems with automated driving technologies

Detailed program and speakers will be announced shortly
Thank you!
And see you soon again in Tokyo!

http://www.cao.go.jp