

Design & Testing

Design of policy and businesses, strategy development, and support for testing in order to resolve societal issues

Under C: Design & Testing, MRI Group helps the public sector design policy and systems, devise strategies, and test these with a view to resolving societal issues. We also support private sector customers in business design, strategy planning, and testing. Our business consulting makes use of the knowledge and expertise we have amassed in providing policy services to the public sector, and we feed back the knowledge and issues found in our work for private sector customers into developing new policies for the public sector.

Case Study 1 Risk Management for 2020 Tokyo Olympic & Paralympic Games 🔒 Safety & Security

Providing a safe and comfortable experience for the many visitors from Japan and abroad

Societal Issue
Smooth operation of Tokyo 2020 requires stable lifeline utilities, maintenance of sanitation services, and measures to deal with the heat to provide a safe, comfortable experience for visitors while minimizing the effects on the lives of residents.

Solution
We are providing assistance in the design of organizational, operational, and ICT infrastructure aspects of the new City Operation Center set up by Tokyo for the 2020 Olympics. We are developing procedure manuals to ensure activities are carried out safely in the last mile* by collecting city information, trends in crowd behavior via security camera footage, and social media posts. We are also devising responses and conducting training to deal with serious incidents such as disasters, terrorist attacks, cyberattacks, and outbreaks of infectious disease to enable a seamless connection with existing crisis management systems.

* Last mile: Route on foot from sports venue to designated nearby station

Value Provided
Through our support of the City Operation Center, we will ensure the success of the Games. The lessons learned will be employed to develop safe, comfortable cities of the future starting with the 2025 Osaka-Kansai Expo.

Comprehensive Risk Management for Tokyo 2020 Games

City Operations	Security
<p>We are providing assistance in the design of organizational, operational, and ICT infrastructure aspects of the City Operation Center responsible for centralized management of city information, security cameras, and crowd analysis to keep the city operating smoothly during the Games.</p>  <p>Source: Bureau of Olympic and Paralympic Games Tokyo 2020 Preparation, Rio de Janeiro 2016 Olympic & Paralympic Games Inspection Report (October 2016)</p>	<p>Specify crisis scenarios (disaster, terrorism, cyberattack, infectious disease) and set up countermeasures and training to ensure spectator safety and security, city service operations, and Games continuity.</p>  <p>Note: MRI photo of counter-terrorism drill for Tokyo 2020 (November 29, 2018)</p>

In case of serious incident

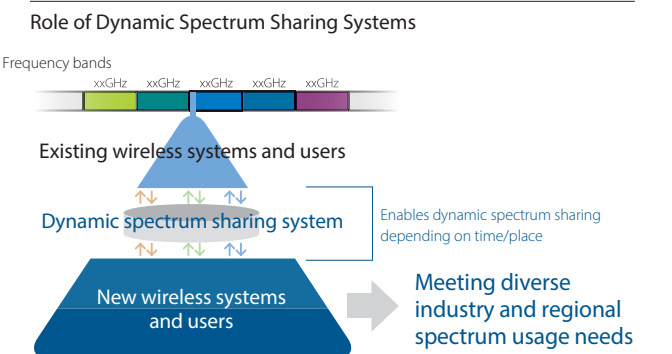
Case Study 2 Addressing depletion of spectrum resources through effective spectrum use 📶 ICT Infrastructure

Resolving societal issues and creating market by transforming wireless resources into social infrastructure

Societal Issue
The supply of wireless spectrum, a limited resource, is increasingly tight amid burgeoning demand for wireless telecommunications systems due to factors such as the explosive spread of smartphones. One potential solution is to share spectrum dynamically to meet the constantly fluctuating demands of usage environment. The US and Europe are beginning to implement this concept.

Solution
Dynamic spectrum sharing requires building systems that enable more users to easily and safely use frequencies and prior coordination among them. MRI is developing applications and providing consulting services to meet regional and industrial needs ahead of future dynamic spectrum sharing.

Value Provided
We are on the cusp of the 5G era. As we move into a world where objects and services are interconnected, optimal use of frequencies in time and space will impact various sectors and business models in addition to the communications industry itself. MRI aims to transform wireless resources into social infrastructure to help resolve societal issues and create new markets.



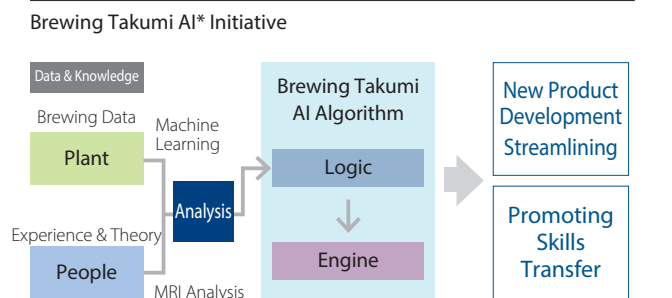
Case Study 3 Passing on Skills of Veteran Workers 🧠 Digital Transformation & ICT Solutions

Introducing Takumi AI

Societal Issue
Recent AI success stories are almost all based on Big Data. However, without large volumes of data, AI is not as accurate as hoped for when it comes to classification, identification, and evaluation, and has failed to make inroads in some workplaces.

Solution
MRI is developing a prototype called Takumi AI to support the adoption of AI. In workplaces without masses of data, Takumi AI absorbs the knowledge and expertise of seasoned masters of a skill ("takumi" in Japanese) to improve AI accuracy. Extracting such knowledge and expertise is no easy task. We show these master craftsmen the accurate results of data-analysis for various hypotheses, and repeating this process both sharpens their ability to pick up on potential problems and formalizes their expert knowledge and know-how into explicit knowledge.

Value Provided
In industries that face the retirement of veteran workers or labor shortages accompanying the aging of society, AI can do more than streamline business processes. The AI building process, making veterans' knowledge and expertise explicit, assists with the transfer of their skills to new practitioners and thereby contributes to resolving societal issues.



* Case study of using Takumi AI in beer product design