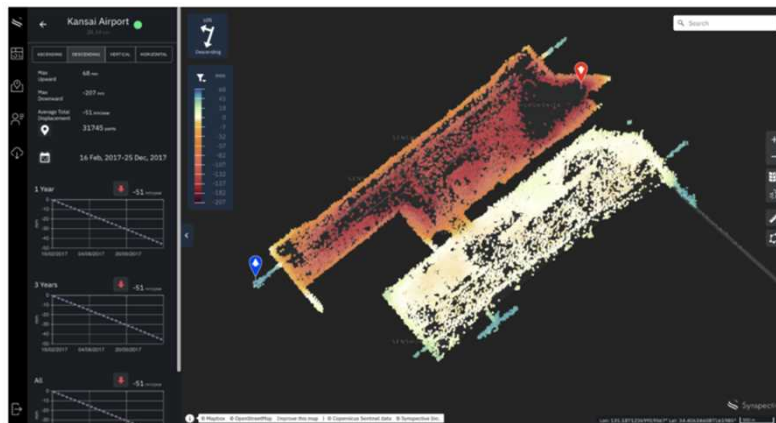
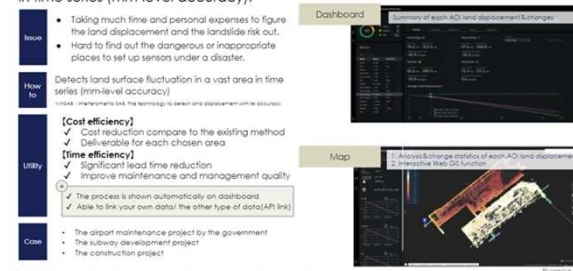


Company Information	Company Name	Synspective Inc.				Industry	Other	
	Website	https://synspective.com/						
Technology / Solution	Tech/Solution Name	Land Displacement Monitoring						
	Which field does the tech/solution contribute to?	Quality Infrastructure and Smart City						
	"Quality Infrastructure"	Road/Bridge	<input type="radio"/>	Port	<input type="radio"/>	Airport	<input type="radio"/>	
		Water and Sewage	<input type="radio"/>	Power generation /Energy	<input type="radio"/>	Railroad	<input type="radio"/>	
		Housing	<input type="radio"/>	ICT	<input checked="" type="radio"/>	Others (Free Writing)		
	"Smart City"	Traffic/Mobility	<input type="radio"/>	Energy	<input type="radio"/>	Disaster Prevention	<input type="radio"/>	
		Infrastructure Maintenance	<input type="radio"/>	Community Activation /Sightseeing	<input checked="" type="radio"/>	Health/Medical	<input checked="" type="radio"/>	
		Agriculture, Forestry and Fisheries	<input type="radio"/>	Environment	<input checked="" type="radio"/>	Security	<input type="radio"/>	
		Logistics	<input type="radio"/>	Urban Planning /Maintenance	<input type="radio"/>	Others (Free Writing)		
	Key words	Space, SAR satellite, Disaster management, Infrastructure monitoring, Landslide detection, sinkhole dete						
Overview of the tech/solution	<p>Web service to analyze ground deformation in a wide area using satellite data and provide the results. Using our original InSAR analysis technology, we can detect the amount of change and the trend of change in a wide area of ground and civil engineering structures in mm units and display the results in a time series.</p> <p>The amount of change can be detected both vertically and horizontally, and past satellite data can also be used to view changes over time up to the present. In addition, the system can detect potential sinkholes with its patent-pending technology for identifying potential sinkholes. This technology is also used to monitor infrastructure and detect landslides.</p>							
Discription of the tech/solution	<p>By analyzing the phase difference of microwaves emitted from a satellite to the earth's surface at different times, it is possible to measure tiny displacements on the order of millimeters, such as ground deformation, landslides, and changes in artificial structures. In addition, the results of the analysis can be developed as a web service that can be easily operated by anyone, providing an intuitive understanding of which points in a wide area have been displaced, at what time, and to what extent.</p>							
Glocal Expansion	Asia	Already developed	Africa	Already developed	Middle East	Already developed	Europe	Already developed
	Russia	Already developed	Oceania	Already developed	North America	Already developed	Mid/South America	Already developed



	Country	Japan															
	City	Fukuoka City															
	Project name	Implementation of Monitoring Service for Road by Small SAR (Synthetic Aperture Radar) satellite															
	Project Overview	Fukuoka City manages road assets with a total length of approximately 3,800 km, and it is required to make effective use of it over the long term as an important facility for maintaining the functions of the city's transportation network. There are various types of road facilities, both large and small, and it is necessary to manage them based on the characteristics of each facility. Synspec's "Land Displacement Monitoring" will enhance the sophistication and efficiency of road monitoring technology, strengthen risk management, build a road maintenance and management system, and achieve a high level of resident satisfaction through a safe and secure environment..															
Case Study	<p>By monitoring ground deformation, it is possible to detect changes in the ground in areas where survey points do not exist.</p> <p>Unique SAR analysis technology detects land surface displacement in a vast area in time series (mm-level accuracy).</p> <p>Issue</p> <ul style="list-style-type: none"> Taking much time and personal expenses to figure the land displacement and the landslide risk out. Hard to find out the dangerous or inappropriate places to set up sensors under a disaster. <p>How to</p> <p>Detects land surface fluctuation in a vast area in time series (mm-level accuracy). <small>Small SAR (Synthetic Aperture Radar) satellite</small> implements the technology to detect and assessment with accuracy.</p> <p>Utility</p> <p>[Cost efficiency]</p> <ul style="list-style-type: none"> Cost reduction compare to the existing method Deliverable for each chosen area <p>[Time efficiency]</p> <ul style="list-style-type: none"> Significant lead time reduction Improve maintenance and management quality <p>Case</p> <ul style="list-style-type: none"> The airport maintenance project by the government The subway development project The construction project <p>It is expected to be used not only for continuous monitoring of the ground surface, roads, bridges and tunnels, but also for preliminary understanding of ground risks such as landslides.</p> <p>Observation Object</p> <p>Road Tunnel Bridge City Railroad Airport Ports</p> <p>Expected Effect</p> <p>Tendency of time series Stability Check Risk Identification Land Subsidence / Land Uplift Soft Ground Landslides</p> 																
	Website of the project	https://synspec.com/jp/press-release/2021/fukuoka-city/															
SDGs	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Note (Award etc.)	<p>Synspec is a Japanese startup, established to install an advanced radar satellite technology into society, developed by national R&D program, ImPACT.</p> <p>The latest update of LDM includes a new feature for predicting sinkholes. This function can help prevent accidents by detecting areas that require attention in advance.</p>																