

Company Information	Company Name	SANKEN SETSUBI KOGYO CO., LTD.				Industry	Constructin / General Contractor															
	Website	https://skk.jp/en/																				
Technology / Solution	Tech/Solution Name	High-efficiency radiant air-conditioning system with decoupled sensible and latent cooling																				
	Which field does the tech/solution contribute to?	Smart City																				
	Which problem can the tech/solution solve?	Traffic/Mobility	X	Energy	○	Disaster Prevention	X															
		Infrastructure Maintenance	X	Community Activation /Sightseeing	X	Health/Medical	X															
		Agriculture, Forestry and Fisheries	X	Environment	X	Security	X															
		Logistics	X	Urban Planning /Maintenance	○	Others (Free Writing)																
	Key words	ZEB, Energy saving, Utilizing renewable energy																				
	Overview of the tech/solution	Our highly efficient radiant air conditioning system, which separates sensible and latent heat, can reduce air conditioning energy consumption by approximately 50% to 80% (an 80% reduction is achieved when using renewable energy).																				
Discription of the tech/solution	Radiant-panel air-conditioning system that reduces energy consumption by 50% or more and creates a quiet, healthy and comfortable indoor environment. The air-conditioning energy consumption can be reduced by 80% by using renewable energy such as solar heat and geothermal heat. (The figure below shows the air conditioning system at Tsukuba-mirai Technical Center) Note: Direct free cooling using geothermal energy is not applicable in low-latitude (tropical and subtropical) regions, as natural groundwater temperatures are around 25-30° C.																					
	Main heat source for the air-conditioning system Cooling: Direct utilization of geo-thermal energy and solar thermal energy (Solar thermal energy for regeneration process of desiccant coil unit)																					
Global Expansion	Asia	Already developed	Africa	No plan to develop	Middle East	Consider if requested	Europe	No plan to develop														
	Russia	No plan to develop	Oceania	Consider if requested	North America	No plan to develop	Mid/South America	No plan to develop														

Case Study	Country	Republic Of Singapore																
	City	Singapore																
	Project name	Demonstration and verification of the energy savings and comfort of a high-efficiency radiant air-conditioning system																
	Project Overview	Our radiant-panel air-conditioning system has been adopted in the ZEB project (ZEBPlus) spearheaded by BCA (Building and Construction Authority), a Singapore government agency, as part of a major retrofitting project to their current Zero Energy Building. We are also collaborating with BEARS (Berkeley Education Alliance for Research in Singapore Limited), a UC Berkeley research institute, to evaluate both the energy performance and thermal comfort for this system.																
	Discription of the project	Our radiant air-conditioning system installed on the 2nd floor of the BCA Academy (Braddell Campus) 																
	Website of the project	https://skk.jp/en/sustainability/environment-technology/																
SDGs	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
																		
Note (Award etc.)	Tsukuba-Mirai Technical Center ZEB renovation project 1. 2014 Renewal Award (SHASE) 2. 2014 Minister of the Environment Award for Global Warming Prevention Activity (Advanced Introduction of Countermeasure Technologies Category) 3.2014 Carbon Neutral Award, Kanto Branch (JABMEE) 4.2016 Sustainable Architecture Award – Jury's Encouragement Prize in Small-scale Building Category (IBEC) SHASE:Society of Heating, Air-Conditioning and Sanitary Engineers of Japan JABMEE: Japan Association of Building Mechanical and Electrical Engineers IBEC: Institute for Building Environment and Energy Conservation (Currently IBECs: Institute for Building Environment and Carbon Neutral for SDGs)																	