



– Company introduction

Our ASEP is developing/operating emergency power facilities, especially smart operation boards and facility monitoring devices for diesel engine type emergency generators, and is researching and developing BMS-applied energy storage systems (ESSs) and hybrid type emergency power facilities. In addition, we are moving toward establishing a smart safety society.

– Company history

2021 10.07. ASEP Co., Ltd. Change to a corporation.

2021 11th Youth Entrepreneurship Academy of the Small and Medium Venture Promotion Foundation

2021 Electrical Research Institute(KERI)– Selected by Innopolis Campus

2021 Selected among the five companies of G-STRONG organized by the Gyeongnam Center for Creative Economy and Innovation.

2021 Selected as a resident of Changwon University's start-up childcare center

2020 10th Youth Entrepreneurship Academy of the Small and Medium Venture Promotion Foundation

2019 Gyeongsangnam Changwon Industry-Academic Convergence Institute – Selection of occupancy in eroomter

20219 Selected as Changwon National Industrial Complex's youth technology start-up specialization project

2019 09.12 Establishment of ASEP

– Technology development status

2019 “Emergency diesel generator – generator temperature monitoring system”

2020 “Emergency diesel generator constant monitoring system using wireless communication technology”

2020 “LTE-AWS Cloud-based Emergency Generator Monitoring System”

2021 “ICT-Big Data-based Development of Control Panel with Self-Balancing

– Homepage address : www.asep.co.kr

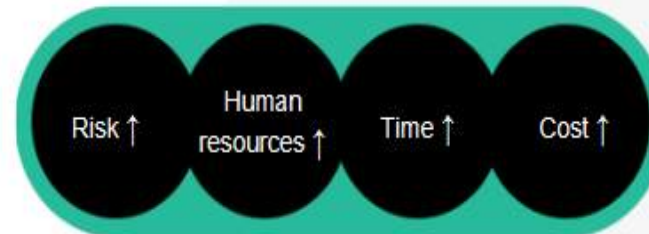
– Inquiries about products : CEO Ha Neung Kyo (010.5207.1622)

ASEP's differentiation.

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Existing management method



- Noise environment of 120 dB or more (operated for at least 30 minutes during inspection)
- Incomplete combustion gas inhalation
- Environmental factors according to the characteristics of the basement



ASEP management method



- Efficiency of time and work environment
- Instant feedback on data changes
- Reduce transportation, time, and labor costs

Emergency Generator Monitoring System

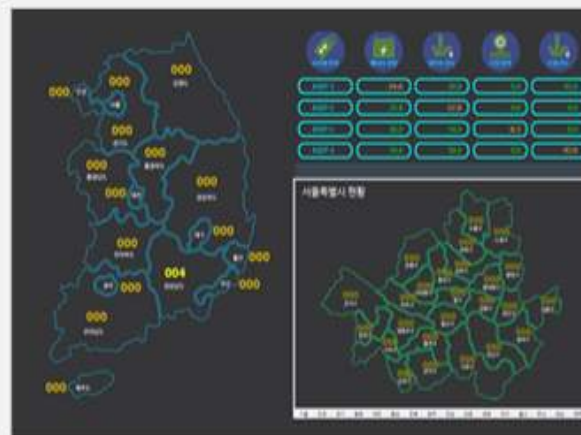
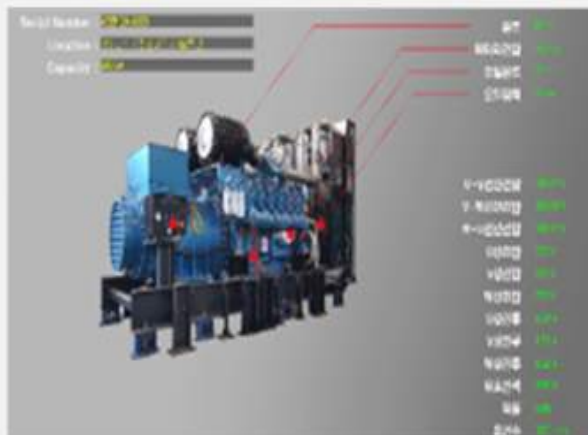
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Always data

Data that keeps the emergency generator operating normally in an emergency

Data collected during operation

Data such as power, voltage, and current detected when the emergency generator is operated in a disaster/emergency.



Technology certification status

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Transfer of patents/Secure of sales channels

- Emergency generator 10-2020-0024743 equipped with a failure prevention function using artificial intelligence algorithms
- Emergency Diesel Generator Remote Monitoring System 10-2020-0059962
- PCT International Patent//Emergency Diesel Generator Remote Monitoring System KR2020/009960
- Automatic Operation Control Team 10-2021-0098896 of diesel-type generators with artificial intelligence-based cognitive-control functions.

NEP Certified



S/W Test report



H/W Test report



KC Electromagnetic compatibility test.



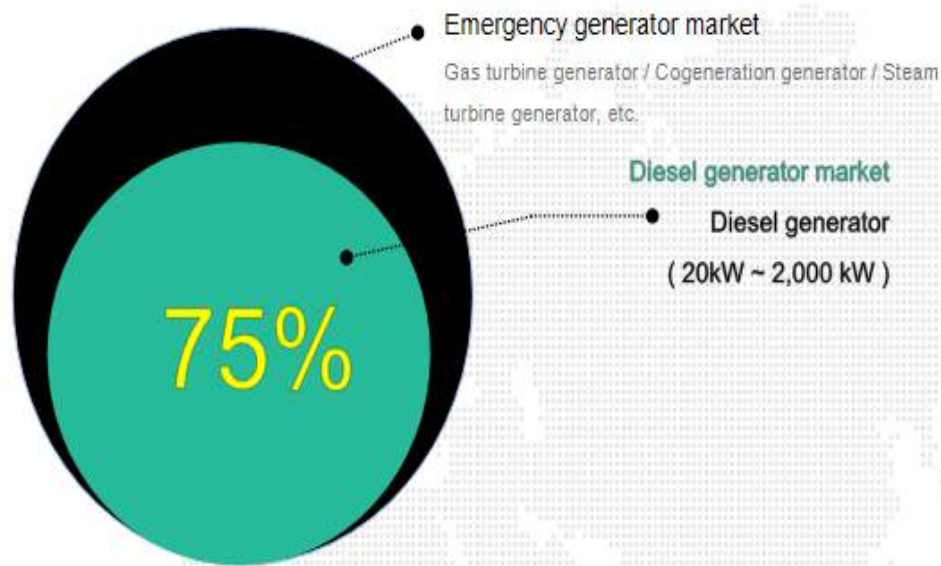
Program algorithm



Self-test report

Market trends

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Key target customers

- Manufacturer and sales agency
- A place where it's hard to manage facilities
- A place that requires continuous care
- Smart factory and other power facilities

Strategies for overseas expansion

- Provide related services in partnership with local Southeast Asian agency companies
- Exhibitions, overseas marketing, and discovery of affiliated companies
- Minimize the risk of occurrence by linking KOTRA's branching business
- Overseas Procurement Support Center/ UN Procurement Market, etc

구분	'19	'20	'21	'22	CAGR ('18~'22)
Domestic market	90,878	112,617	151,623	174,351	19%
Overseas market	7,239	7,525	7,742	7,981	3%

※ Domestic/Overseas Market Calculation Formula: Applying IMF Global Economic Growth Estimate Based on 2020 Estimate (\$752.5 billion) ※ Source: Industrial Market Analysis by Korea Institute of Science and Information

※ Reference data: Global Remote Power Generator Monitoring Market 2018~2022(www.researchandmarkets.com); IMF(2018.06), World Economic Outlook

BUSINESS MODEL

Long-term and stable revenue generation through regular reports and maintenance costs



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Model 1

Status information collection device product (Module)

ex) 1SET = 1,500,000won

Model 2

Real-time monitoring and reporting service

ex) 1unit (20,000won per month) → 40,000won per year

Model 3

Maintenance A/S revenue from failure diagnosis and prediction results

ex) Various filters, battery replacement, hydraulic system, and other paid repairs

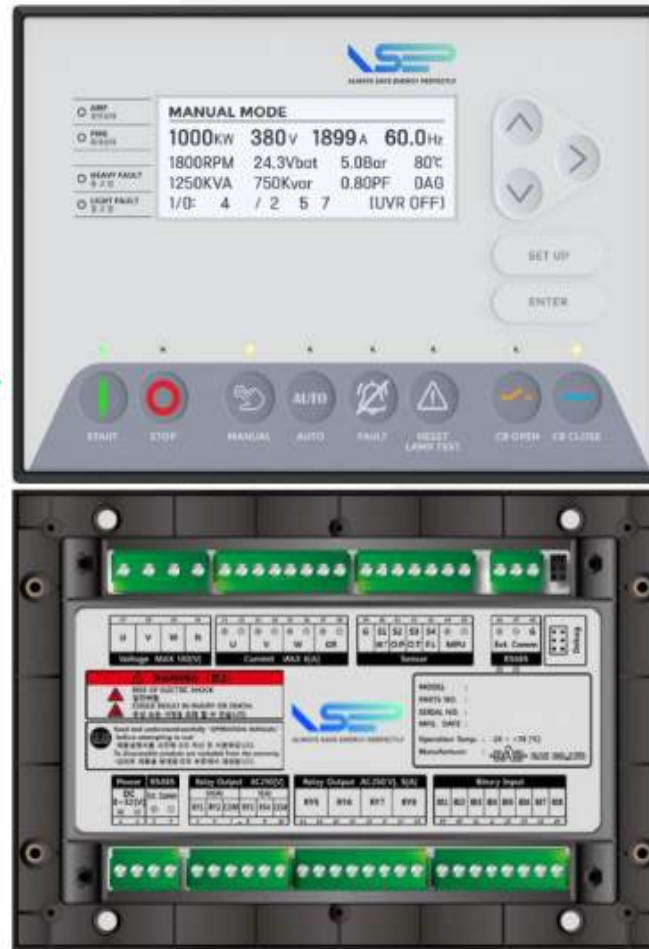
Big data-based self-awareness

Diesel generator operation board to which the control function is applied



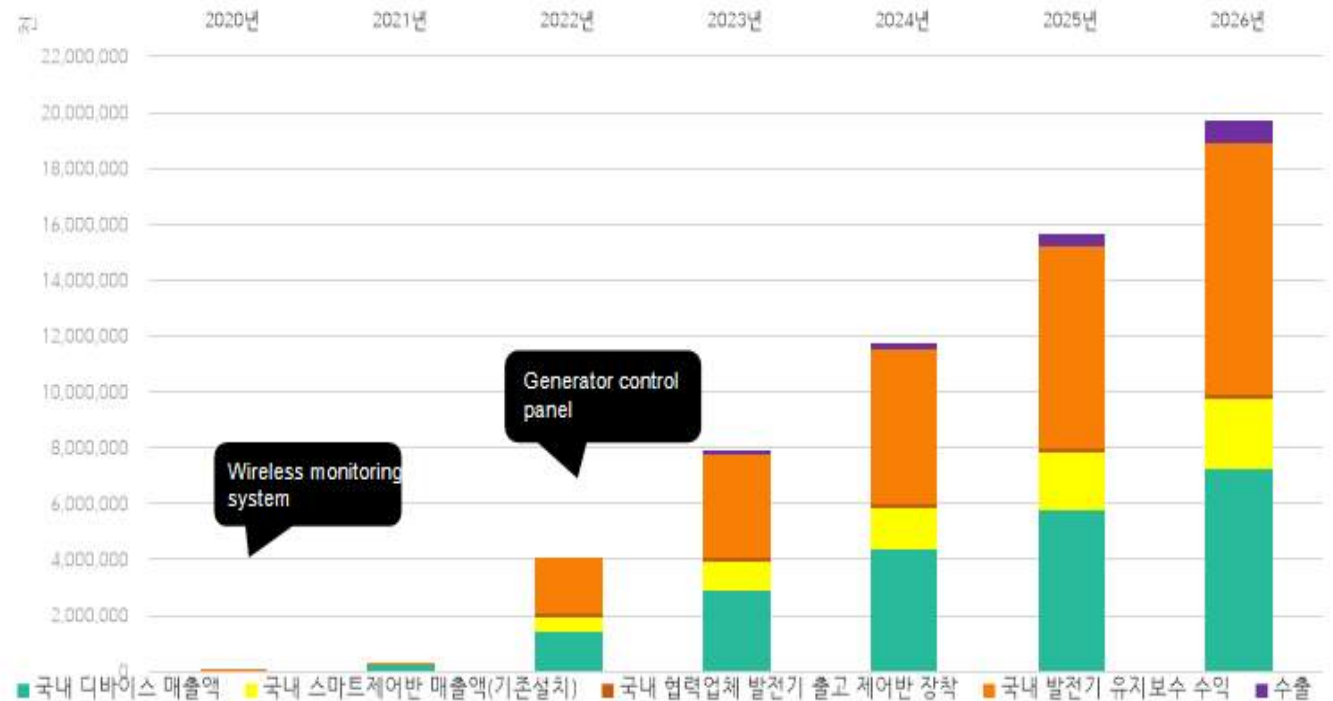
- Basic engine. Indicate detection data during power generation
- AUTO/ Manual Mode
- Protection circuit check/operation function
- Remote start function
- Three-phase voltage/current, other digital/analog signals
- Automatic voltage retention function (adjustment)
- Machine learning algorithm – optimal environment maintenance function
- RS-485 / LTE / Wifi Wireless communication function

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Strategy to enter the market

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Sortation	2020	2021	2022	2023	2024	2025	2026
Domestic device sales	40,000	240,000	1,445,000	2,890,000	4,335,000	5,780,000	7,225,000
Sales of Smart Control Panel in Korea (Existing installation)	0	0	510,000	1,020,000	1,530,000	2,040,000	2,550,000
It's equipped with the control panel for domestic suppliers' generators.	0	0	119,000	124,950	130,900	136,850	142,800
Maintenance revenue for domestic generators in Korea	20,120	30,000	2,000,000	3,754,000	5,508,000	7,262,000	9,016,000
Export	0	0	20,000	100,000	200,000	400,000	800,000
Sum	60,120	270,000	4,094,000	7,888,950	11,703,900	15,618,850	19,733,800

Investment review request

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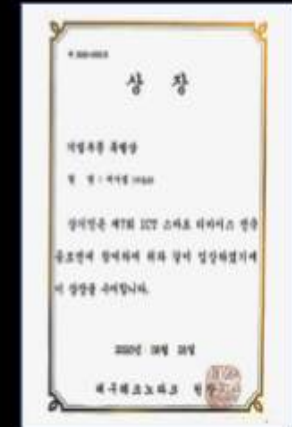


투자 검토 요청서			
1. 기본현황			
기업명	에이엠피(ASEP)		
대표자 성명	최종교	생년월일	1995.12.09
가입연월일 (회사설립연월일)	2019.09.12	사업자구분	현재 개인 종류 법인 전환
전화번호	010-5207-1622	이메일	haneonghp@gmail.com
주 소	경상남도 창원시 의창구 창원대학교로20 창업보육센터 제4창업실 (82319호)		
업 종	제조업	종업원 수	2명
자 본 금	202,051,347	투자대상	생의 본계정
연 혁	2021.04.30: 경남창조경제혁신센터 9차에 선정 2021.04.01: 창원창업사관학교 11기 입교 2021.03.10: 한가람구분-강소특구 혁신플랫폼에서 사업 선정 2021.03.01: 창원대학교 창업보육센터 입주 2020.04.01: 창원창업사관학교 10기 입교 2019.09.12: 에이엠피(ASEP) 설립		
매출액(원)	2020년 402,720,000	2021년(추정 기준) 465,520,000	
대표자 소개	창원대학교 일반대학원 기계공학부 전공 및 제1공학 석사과정 창원대학교 기계공학부 박사 (중) 창원기계공업고등학교 (졸)		
기업 발굴 경로	창원문성대학교 2019년도 창업 프로그램		

Overview

Big Data - ICT-based diesel generator monitoring system ---14

- 2021**
- 10th generation of KOSME acceptance
 - 2021 5 companies in Gyeongsangnam-do, G-Strong
 - 2021 Electrical Research Institute – Selection of Innopolis Project, Strong and Small Special Zone
 - IP Narae Gyeongnam Intellectual Property Center Selection
 - 2021 Data Voucher AI Algorithm R&D Selection
 - 2021 Gyeongnam-style accelerating selection
 - 2021 Gyeongsangnam-do Prototype Production Support Project Selection
 - 2021 Changwon University Industry-Academic Joint Technology Development Selection
 - 2021 Electrical Research Institute - Changwon Strong and Small Special Zone KERITOR 2nd Generation IR Demo Day Grand Prize winner
 - Selected as the 10th generation of the 2021 Korea Credit Guarantee Fund



- 2020**
- 2019 Information System Engineering Association Entrepreneurship and Entrepreneurship Competition Awarded
 - Winning the Excellence Award at the 2019 Youth IDEA-TECH Competition
 - The 7th ICT Smart Device Contest won the Special Award for Companies in Daegu
 - Winning the grand prize at the 1st Gyeongsangnam-do Youth Startup Idea Competition (Gyeongsangnam-do Governor's Award)
 - Korea Electric Power Corporation won the 2020 Creative Innovation Idea Contest
 - 10th generation of KOSME Overall score. "Excellent"



Our Team

CEO

Ha Neung Kyo

- School of Vibration Control Engineering branch(Master's degree) in Mechanical Engineering at Changwon University
- working as a test driver and A/S engineer for manufacturers specializing in emergency generators.
- KOSME 10th generation, outstanding graduation / Chairman of alumni association in Gyeongsangnam-do
- KOSME 11th Additional process / Chairman of 11th generation

Business support

Director

Jeong Eun jin

- Business administration major at Daegu Catholic University

R&D

Team leader



Kwak Tae Ju

- Graduate in electrical engineering at Changwon University.
- PCB circuit/part mounting design/development
- Manufacture of UV equipment with uniform distribution



Gu Ha Yun

- Mechanical Engineering at Changwon University
- Researcher in charge of ANSYS Workbench interpretation
- CATIA Tool 3D Instrument Design



Ju ye hyeon

- Mechanical Engineering at Changwon University
- Researcher in charge of ARMD/S/W interpretation



- | | | |
|------|----------|--|
| 2020 | June | Developing a Wi-Fi model |
| 2020 | December | Advanced LTE models |
| 2021 | June | HDD DB > AWS Cloud DB |
| 2021 | October | Pattern analysis and similar cluster identification Machine learning algorithm application |
| 2022 | February | Self-Cognitive-Control Smart Generator Control Panel Development Completed |
| 2022 | June | Smart Control Panel NET/NEP application |





ALWAYS SAVE ENERGY PERFECTLY

SMART SAFETY SOCIETY