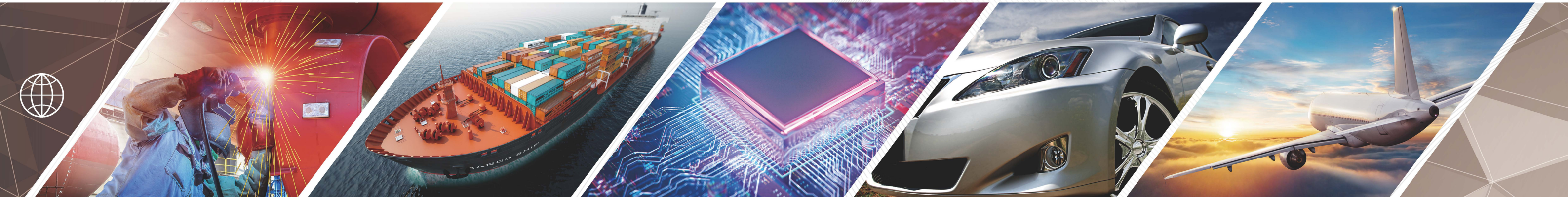


The company leading the fourth industrial revolution



VPK that leads the 4th industrial revolution **VPK, Inc.**



VPK, Inc.

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TEL: +82-31-442-7447 FAX: +82-31-442-7887

www.vpkcorp.com

VPK, Inc.

INTRODUCE

Greetings. We are Kim, Han-seong and Jun, In-ki, joint CEOs of VPK, Inc.

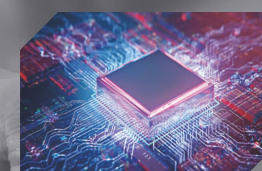
It has been 20 years since the company's foundation in 1999 that we have continued to drive forward.

To gain a competitive edge and ensure the company development amid the rapidly changing global and domestic economic landscape, we have remained fully dedicated to ceaseless technical and productive developments to achieve perfect customer satisfaction.

To earn customer satisfaction and loyalty with better quality, all the members of the company will continue to exert every effort and we would like to express our deepest gratitude towards everyone who has always shown their unwavering support and affection for the achievement VPK, Inc. has made to this day.

Towards the world with the best quality

The specialized company for factory automation and energy/environment equipment leading the fourth industrial revolution with ICT/PLM technical convergence



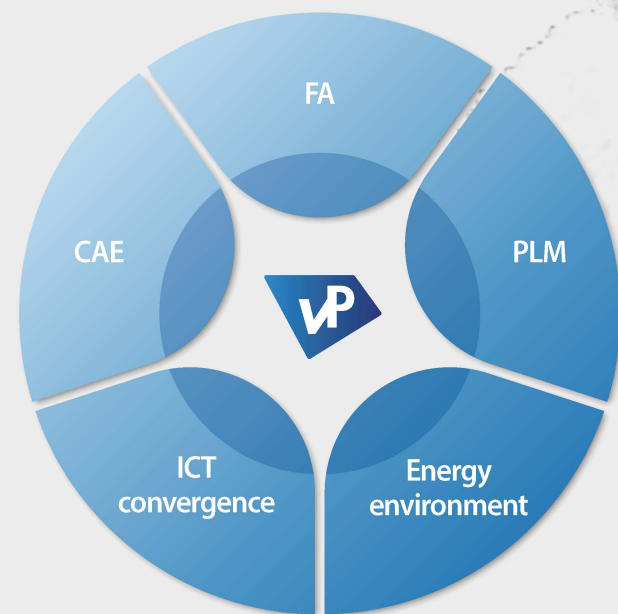
Company History

- Mar. 1999 Company founded (on March 25th in Yeouido)
- Oct. 2004 Launched the statistic-based management innovation software, NEOTIDE® Sigma
- Mar. 2006 Acquired the ISO9001 certification and venture business certification
- Jan. 2007 Patent registration: Internet-based statistical analysis system - Korean Intellectual Property Office (KIPO)
- Feb. 2007 Concluded the DASSAULT SYSTEMES Business Partnership
- Feb. 2008 NEOTIDE® Sigma selected as a software for administrative jobs
- Dec. 2008 Released NEOTIDE® STAT
- Mar. 2009 Established a company-affiliated research institute
- May 2009 Certified as a SME with technical innovation (Inno-Biz)
- Mar. 2011 Certified as a SME with management innovation (Inno-Biz)
- Sep. 2012 Selected as a company where Korea most wants to work for (Maeil Business Newspaper)
- Oct. 2013 Certified as a promising SME in Gyeonggi-do in 2013
- Dec. 2014 Awarded with a USD 5 million export tower – Korea International Trade Association (KITA)
- Feb. 2015 Patent registration: Apparatus and Method for BSR Noise Generation - Korean Intellectual Property Office (KIPO)
- Nov. 2015 Registered the manufacture of refrigerators (3RT – 100RT)
- Aug. 2016 Patent registration: Autonomous emergency braking testing equipment – Korea Intellectual Property Office (KIPO)
- Oct. 2016 Joint platform for the automated analysis software – NRCUBE
- Jan. 2017 Launched the image recognition product using vision technologies, OptiCube
- Dec. 2017 Opened the Daejeon Sales Office under the PLM Business HQ
- Mar. 2018 Registered as an CAE technology for Hyundai Motor Group
- Dec. 2018 Merged VP KOREA and Jaeil Laboratories, Inc. → Changed the company name to VPK, Inc.
Acquired the PLM business division of World T&S – Opened the Daegu Sales Office
Patent registration: Analog measuring equipment management system - Korea Intellectual Property Office (KIPO)
Patent registration: Method for Controlling Expansion Valve According to Operational Conditions of Refrigerators - Korea Intellectual Property Office (KIPO)
- Mar. 2019 Acquired the certified exporter with country of origin by company - Seoul Main Customs

BUSINESS AREA

Business Area

- Supplies CAE consulting services and PLM solutions - Abaqus, CATIA, Isght, Dymola, Enovia, Tosca, etc.
- With the statistical analysis software, NEOTIDE® STAT, develops a wide variety of solutions, including monitoring systems and simulation systems. OPTICUBE, the image recognition module using IoT devices and gateway.
- Heat pump system, ENERGYCUBE, combines intelligent integrated energy monitoring and management system with advanced statistical analysis-based forecasting model, data-mining technology, pattern recognition technology, etc. and the optimized operating solution.
- Supplies fluid filling machines, new technology calibration equipment and electronic inspection system to automobile production line. Promotes automobile production KD businesses in Vietnam and other various countries.



Towards the world with the best quality

ICT Enterprise Solution Development & Services

CAD/CAE Consulting Services PLM Solution Provider

Automobile Engineering FA LOGISTIC

Energy Management System

Major Performance

- Fluid filling equipment, new technology calibration equipment, and automotive electronic inspection system
Hyundai Motor Company, Kia Motors, SsangYong Motor, GM Korea, Renault Samsung Motors
- Automobile production KD business
HTMV (Vietnam), PML (Pakistan), Youngsan Glonet (Kazakhstan)
- Geothermal heat pump
Hoseo University, Woolfarm, Starfield (Wirye), NVH KOREA, Kyungpook National University Hospital
- CAE consulting and PLM solutions
Hyundai Motor Company, POSCO, Korea Gas Corporation, Korea Automotive Technology Institute, Korea Railroad Research Institute, Korea Institute of Civil Engineering and Building Technology



Product Lifecycle Management

PLM solutions enable effective operation and management of all stages from the product planning to the manufacturing, product life cycle and information. We provide the finest solutions that are perfectly applicable to all areas of the product development, including designing, analysis, data management and manufacturing.



Finite element analysis (FEA) and simulation solutions

SIMULIA® provides an extensive range of software for design engineer, such as the Abaqus structural analysis through the finite element method (FEM), noise, vibration, fluid, optimization, durability and dynamics.

#Abaqus #Isight #FE-safe #Tosca #Xflow #Wave6 #CST



3D CAD design solutions

CATIA® is a world-class engineering and design software that produces excellent 3D CAD designs. It satisfies the design requirements of all manufacturers, ranging from the OEM to small- and medium-sized independent manufacturers.



Collaborative innovation PDM & BOM management software

The 3DEXperience-based ENOVIA® leads the innovation of the product development in all industries and provides perfect enterprise collaboration application that raises operational efficiency.



Digital manufacturing software

DELMIA® is a digital manufacturing solution (DMS) that realizes complete digitization of every stage of the manufacturing system, ranging from process simulation of the entire manufacturing lines to cost accounting.



3DEXPERIENCE®

3D Communication Digital Platform

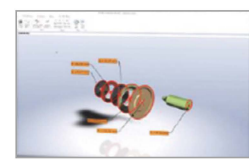
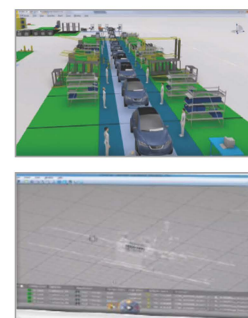
3DEXperience platform is composed of 12 powerful brand applications, such as designing, analysis, manufacturing, and simulation, to provide customized solutions for our customers in 11 key industries to support their internal online collaboration.

Production

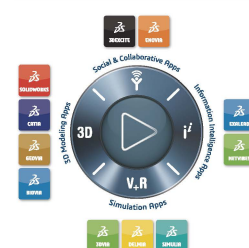
- Minimized changes in design after mass production

Validation and review

- Minimized design error before release
- Design quality control



A/S
• 3D technical documents and parts book



Automation
• CAE simulation
• Performance optimization
• Reliability analysis



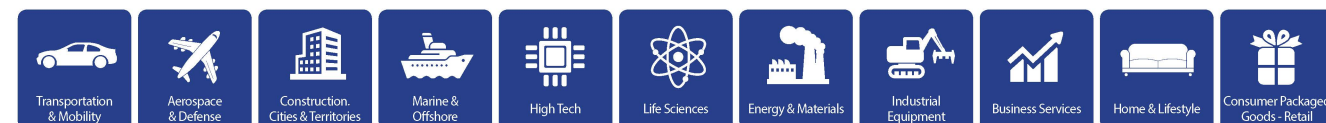
Management

- Process management
- BOM management
- Real-time sharing of product development information throughout the enterprise



Design

- Establishment and standardization of modeling/ design methodologies
- Use of design templates and design automation

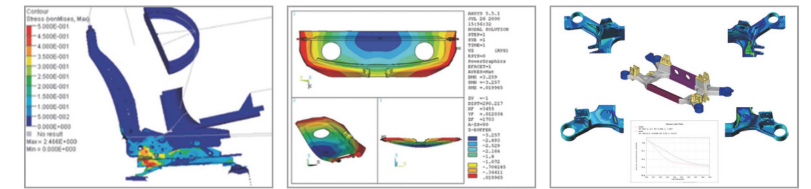


Professional Engineering Solution Services

Provides various and precise solutions in the fields of research/design of automobile/electric and electronic/marine/aerospace/ heavy industry. Structural, NVH and crashworthiness analysis are performed to assess stiffness, durability, safety and acoustic performance and comprehensive CAE consulting services are provided to conduct the concept design, optimization and robust design.

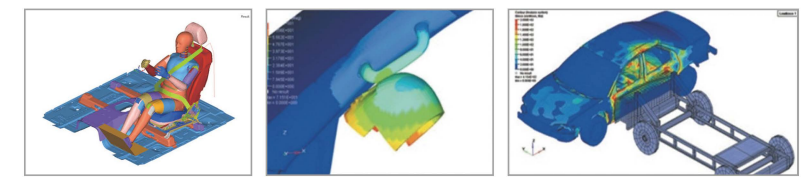
Structural Analysis

- Structural strength/deformation/stress analysis
- Large deformation/material nonlinearity/creep analysis
- Durability (fatigue) analysis



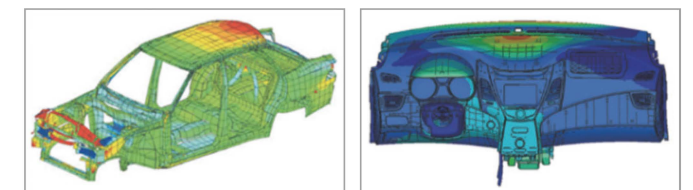
Crashworthiness Analysis

- Automotive crashworthiness analysis according to the crash test regulations (North American motor vehicle safety standards, and EU vehicle safety standards)
- Vehicle/railroad passenger and pedestrian safety assessment



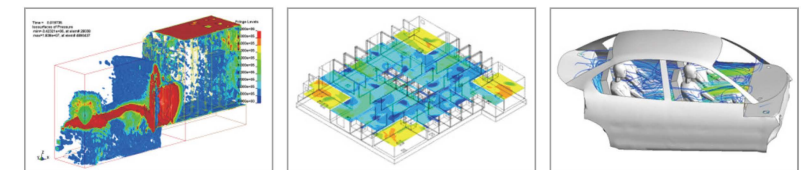
NVH Analysis (Noise, Vibration & Harshness)

- Normal mode, transient response analysis, frequency response analysis
- Acoustic analysis and assessment inside and outside a vehicle
- Transmission loss in noise absorption and insulation materials
- Reliability-based, perceptual quality assessment and BSR analysis (Buzz, Squeak & Rattle)



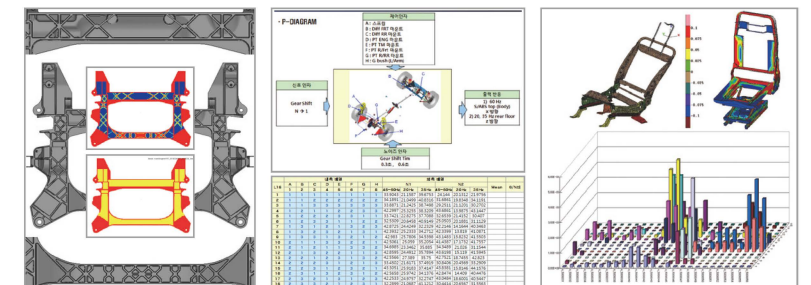
Thermal/Fluid Analysis

- Fluid sloshing analysis
- Fluid and structural interaction co-simulation
- fluid and solid heat transfer analysis
- Indoor air-conditioning analysis and comfort assessment
- Incompressible and compressible fluid analysis (single and multi-phase)



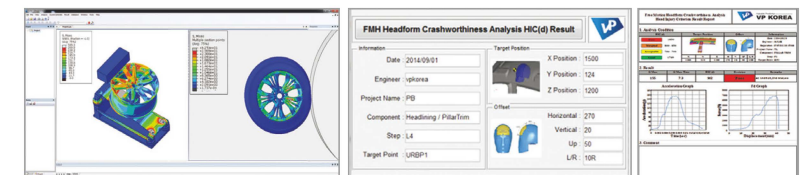
Integrated Robust Engineering

- Multidisciplinary Design and Optimization (MDO)
- Design sensitivity analysis and structural optimization analysis, topology optimization analysis
- Reduced weight/enhanced performance, robust optimization
- DOE/RSM-based optimization
- DFSS improvement activities and minimization of performance deviation



CAE Automation

- CAE Platform(SLM)
- Automatic CAE/CAD
- Pre/Post Processor
- In-house program



1. Engineering Software Resource

- 1) ABAQUS, LS-Dyna, Nastran
- 2) FE-safe
- 3) Isight, TOSCA
- 4) Xflow, STAR-CCM+,
- 5) HYPERWORKS
- 6) NRcube(BSR)
- 7) NEOTIDE, Minitab

2. Engineering Hardware Resource

- 1) Processor: Intel E5-2667 v4
- 2) Number of nodes: 20
- 3) Number of CPU cores: 320 cores
- 4) Memory: 5.12 Tb
- 5) Storage: 20 Tb

FA(Factory Automation) Business

Automobile Production Line Automation Equipment Manufacturer

Based on its technical capacity, the automation technology team engages in the development, manufacture, installation, service provision regarding facilities used to test fluid filling equipment for mass production lines and cutting-edge technical devices for driving support of Full vehicle, including a range of fluid storage units at automobile assembly factories. Furthermore, VPK designs, manufactures, installs and delivers various transport machinery and vehicle inspection equipment based on its extensive experience in the CKD turn-key construction in various foreign countries.

Products

FILLING EQUIPMENT



Refrigerant Charging Equipment



Brake Fluid Filling Equipment



Coolant Filling Equipment



Washer Fluid Filling Equipment



Power Steering Oil Filling Equipment



Urea Filling Equipment



Transmission Oil Filling Equipment



Refrigerant Outside Supply Equipment

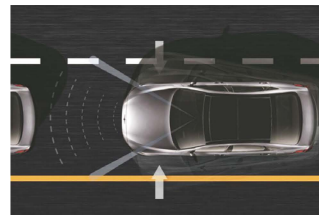


Repair Filling Equipment

TEST EQUIPMENT



LDWS Test Equipment



LKAS Test Equipment



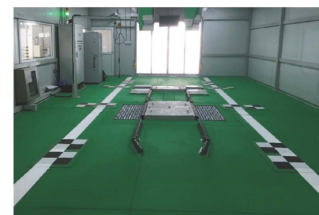
SCC/ASCC Test Equipment



AEB Test Equipment



BSD Test Equipment



AVM Test Equipment

KD



Floor Conveyor System



Over Head Conveyor System

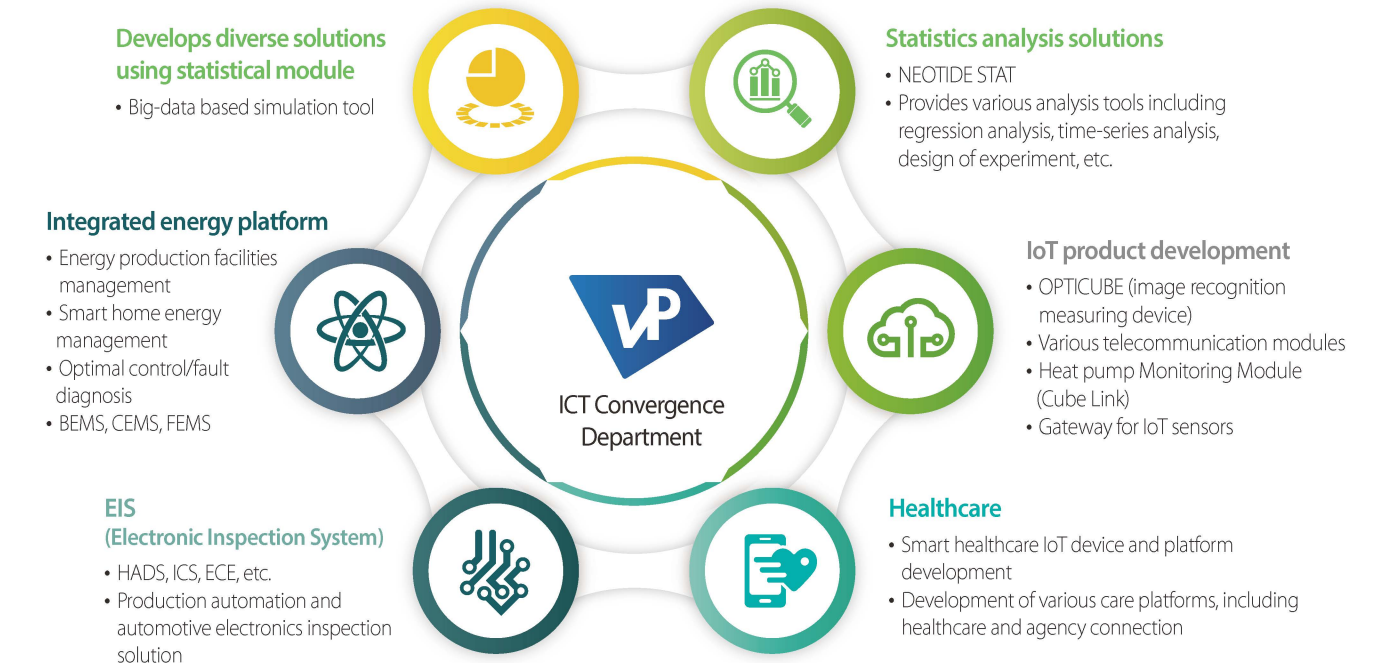


Parachute Training System

ICT(Information & Communication Technology) Convergence Business

The company develops and manufactures a wide variety of products based on its successful R&D performance related to ICT convergence technology, ranging from IoT devices to automotive EIS (electronic inspection system). Built upon the knowhow and capabilities continuously gained through a series of national R&D projects in relation to energy facility monitoring and optimization, the company is fully capable of providing integrated energy platform solutions with combined technologies such as sensors, telecommunication and big data, fault diagnosis technology and optimal control, and continues to develop and supply a full range of electronic inspection equipment installed in automobile production lines.

ICT Business and Products



ELECTRONIC INSPECTION SYSTEM



Error Code Eraser

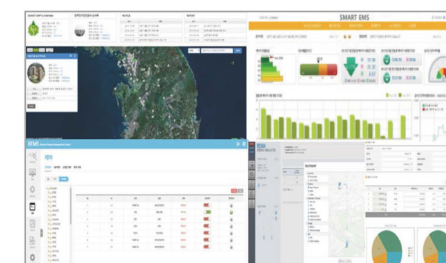


HADS(Hyundai Automatic Diagnosis System)



ICS(Immobilizer Coding System)

IOT, WEB, MOBILE



xEMS platform



IoT Device



Mobile App.

Energy & Environment Business



ITEM (Intelligent Thermal Energy & Environment Management)

Business objectives

- Development of sustainable energy production technologies for environment
- Waste recycling and development energy saving technologies for air conditioning systems
- Design of energy systems using IoT-based technologies and development of technologies for efficient energy use



Mobile intelligent maintenance system



Smart remote control system

HEAT PUMP



5RT

30RT

50RT

150RT

The specialized company for factory automation and energy/environment equipment leading the fourth industrial revolution with ICT/PLM technical convergence

As a leader in the fourth industrial revolution, we vow to remain relentless to create unique and distinctive customer values.

