



MIIFED Table Round on SMEs

2013. Dec.

Presenter KAT CEO Han, Sang-Duk

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- 3 Core competences
- 4 Fusion project experience

I . About KAT

History

1998

Developed the Cr plating of superconducting wire for KSTAR project

1998

Started R&D for SC wire by internal tin process at Kiswire R&D Center

2004

Found KAT specialized company of superconducting wire at Daejeon

2006

Supplied Nb₃Sn SC wire of 2 tons for PF coil to KSTAR Project

2008

Certificated the first supplier of Nb₃Sn wire to pass CPQS test by ITER in the world

2009

Contracted total Korean quantity of 93 tons of Nb₃Sn wire
Started mass production of Nb₃Sn for ITER

2013

We have supplied 93 tons of SC wire(2013.9)
Developed the magnet for MRI

I. About KAT

Vision / Strategy

Superconducting
leading company



Superconducting specialized company

LTS

HTS

Nb₃Sn

NbTi

MgB₂

YBCO



Superconduction application

Magnet

Cavity

Cryo
module

II. Key figures

Introduction

Overview

Major Business	Location
Produce superconducting wire and application	#700, Taplip-dong, Yuseong-gu, Daejeon, Korea

Employees

	B/S	R&D	Production	Total
Male	3	18	23	44
Female	2	1	0	3
Total	5	19	23	47

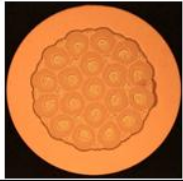
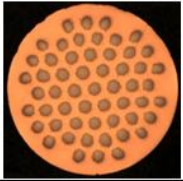

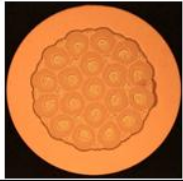
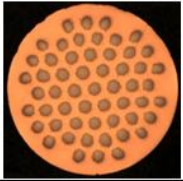

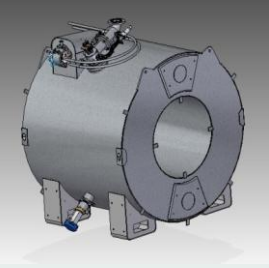

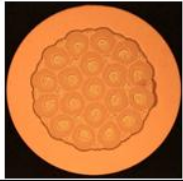
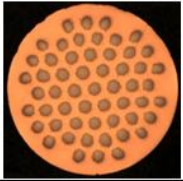

Turnover and R&D Budget

(USD 1,000)

item	2011	2012	2013
Turnover	23,625	23,326	11,839
R&D budget	1,946	3,328	3,175

III. Core competences

Superconducting Wire & Application

Item	SC wire	MRI Magnet									
<p>Technologies</p>	<p>Long length strand production Multi filament strand production High J_c & Low Q_h strand Heat treatment Insulation(Plating, Fiber glass)</p>	<p>Electro magnetic analysis Quench Analysis Cryogenic Tech (ZBO) Winding/Impregnation/Welding Magnet Test</p>									
<p>Products</p>	<table border="1"> <thead> <tr> <th data-bbox="488 896 701 939">Nb_3Sn</th> <th data-bbox="701 896 942 939">$NbTi$</th> <th data-bbox="942 896 1163 939">MgB_2</th> </tr> </thead> <tbody> <tr> <td data-bbox="488 939 701 1118">  </td> <td data-bbox="701 939 942 1118">  </td> <td data-bbox="942 939 1163 1118">  </td> </tr> <tr> <td data-bbox="488 1118 701 1160"> <p>280A@12T, 4.2K</p> </td> <td data-bbox="701 1118 942 1160"> <p>780A@4T, 4.2K</p> </td> <td data-bbox="942 1118 1163 1160"> <p>458A@3T, 4.2K</p> </td> </tr> </tbody> </table>	Nb_3Sn	$NbTi$	MgB_2				<p>280A@12T, 4.2K</p>	<p>780A@4T, 4.2K</p>	<p>458A@3T, 4.2K</p>	<div style="display: flex; justify-content: space-around;">   </div>
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IV. Fusion project experience

Experience in Fusion

□ SC wire for ITER

	Kinds of Wire	Quantity	Supplier	ETC
TF	Nb3Sn	480 ton	U.S, JAPAN, EU, CHINA, KOREA, RUSSIA	Supply Korea's entire quantity (20%, 93ton)
PF	NbTi	240 ton	CHINA, RUSSIA	
CS	Nb3Sn	120 ton	JAPAN	Going to get qualification of a supply (2013)
Total		840 ton		

□ Business participation of ITER

Item	Quantity	Period	Use
Nb3Sn SC	93 ton	2009.9 ~ 2013.9	ITER TF



Thank you.