

**KTL Technologies Ltd**

**'KTL'**

**ASX Listed Industrial Technology Company.**

# KTL Technologies Ltd

‘KTL’

TAKE A MAJOR STEP FORWARD IN THE COMPANY’S  
PLANS TO  
COMMERCIALISE ITS PATENTED LOW  
TEMPERATURE INSULATION SYSTEM CALLED  
“CRYOLAG”.

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Owens a patented system to provide  
a cryogenic solution  
(very low temperature insulation for pipework for LNG and  
related industries known as 'Cryolag').

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## What is **Cryo-Lag**?

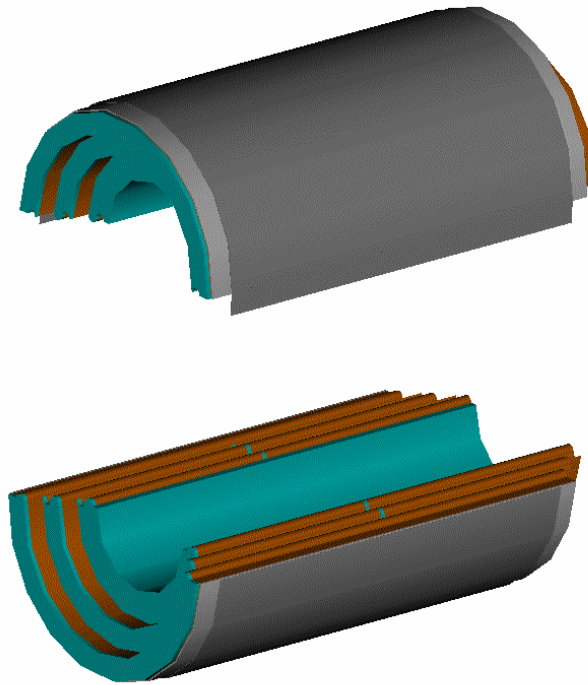
- Prefabricated Product
- Modular Insulation System
- Suitable for Cryogenic Pipe Work

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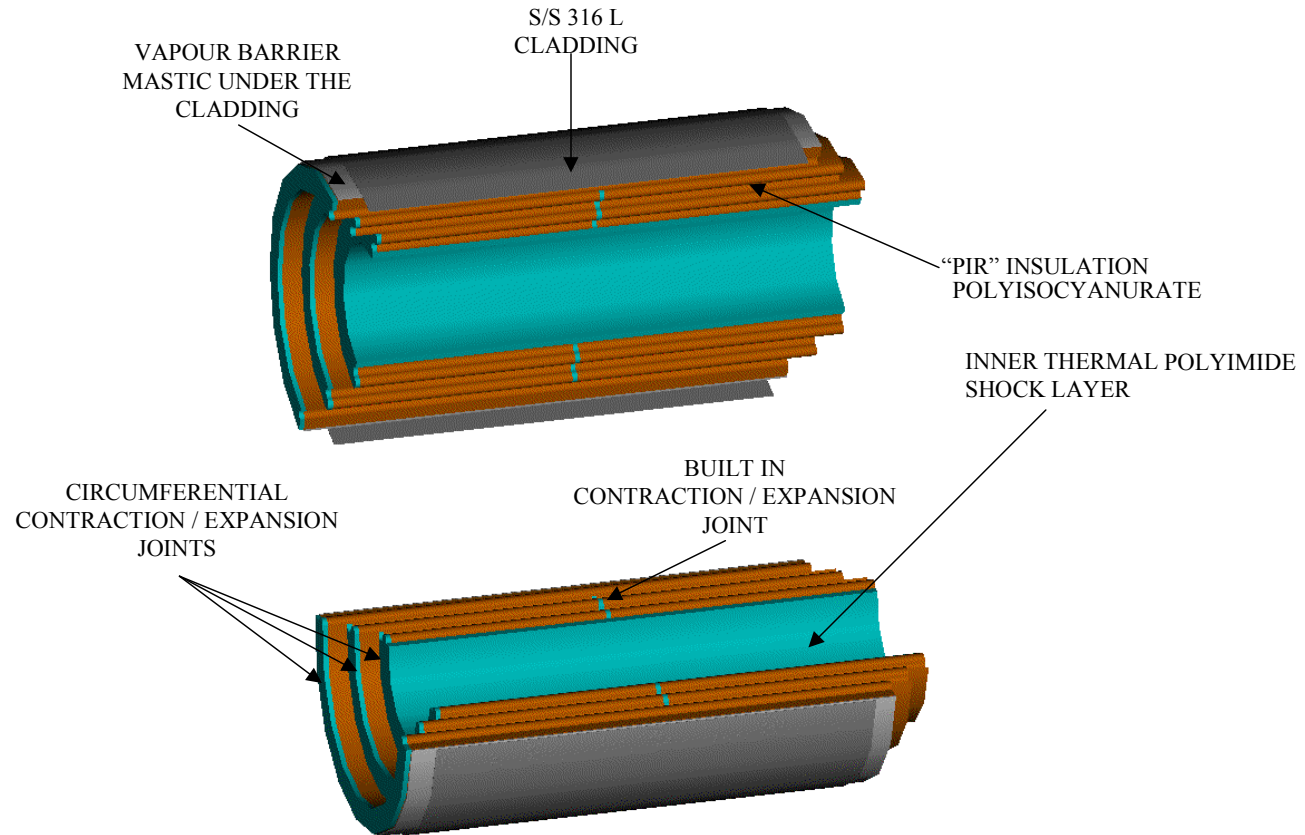
## **Cryo-Lag Technical status**

- Design Specifications Completed
- Manufacture of prototype completed
- Installation of prototype solution completed.
- Patents issued in USA, Australia, Taiwan, Philippines
- Patents pending in Europe, Korea, Malaysia, Thailand and Japan.

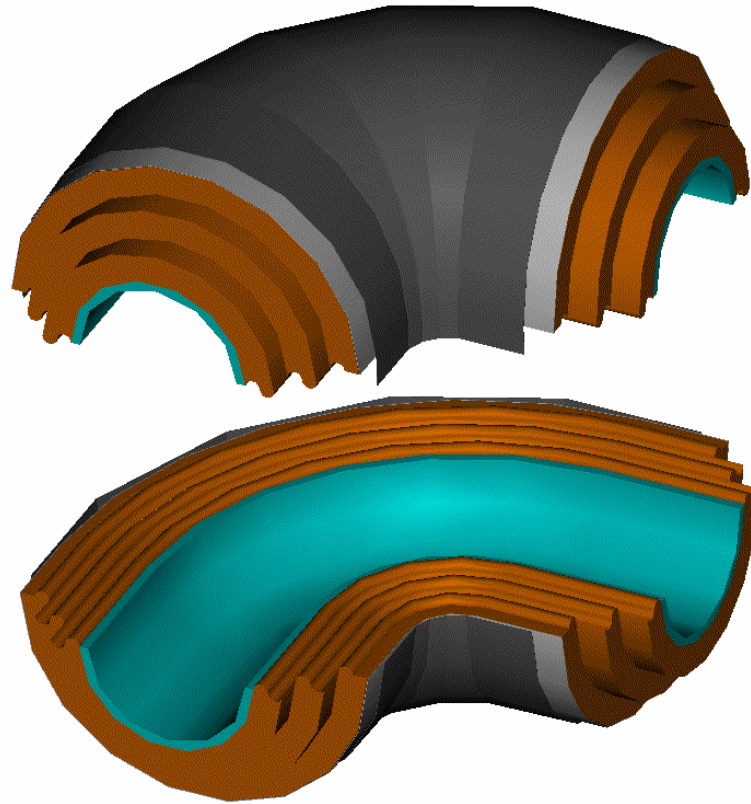
# What is Cryo-Lag



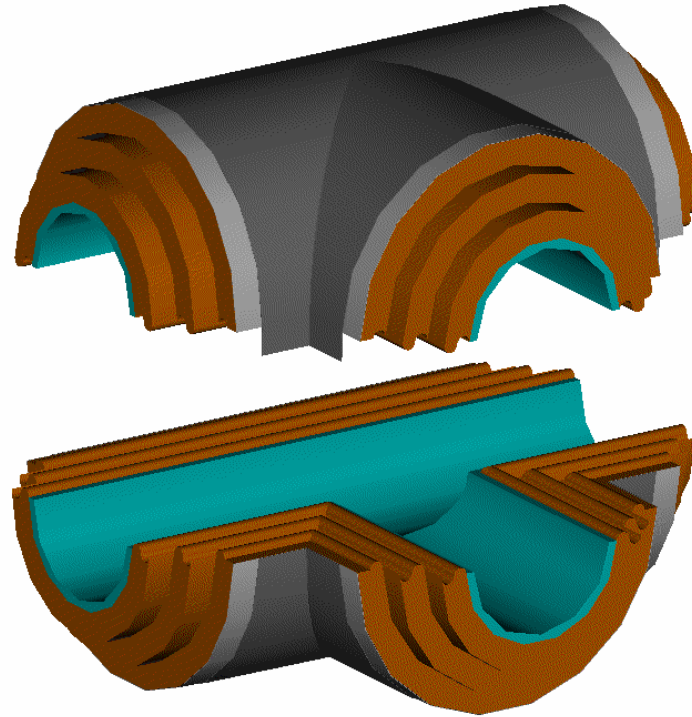
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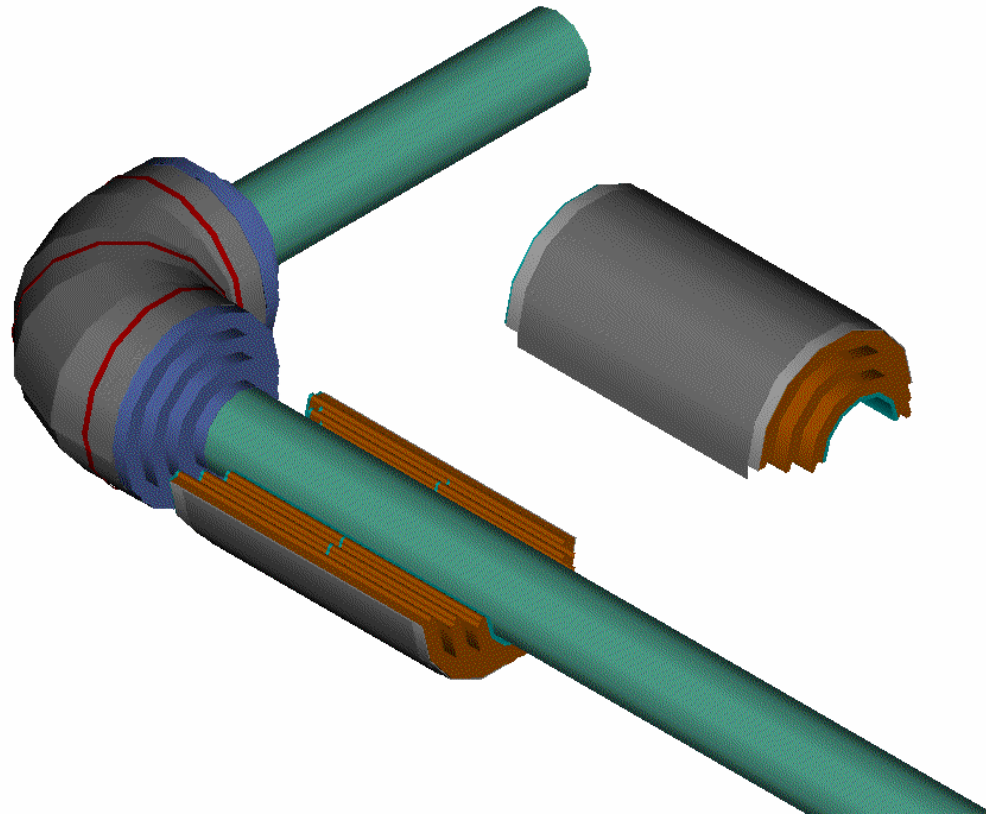
# What is Cryo-Lag



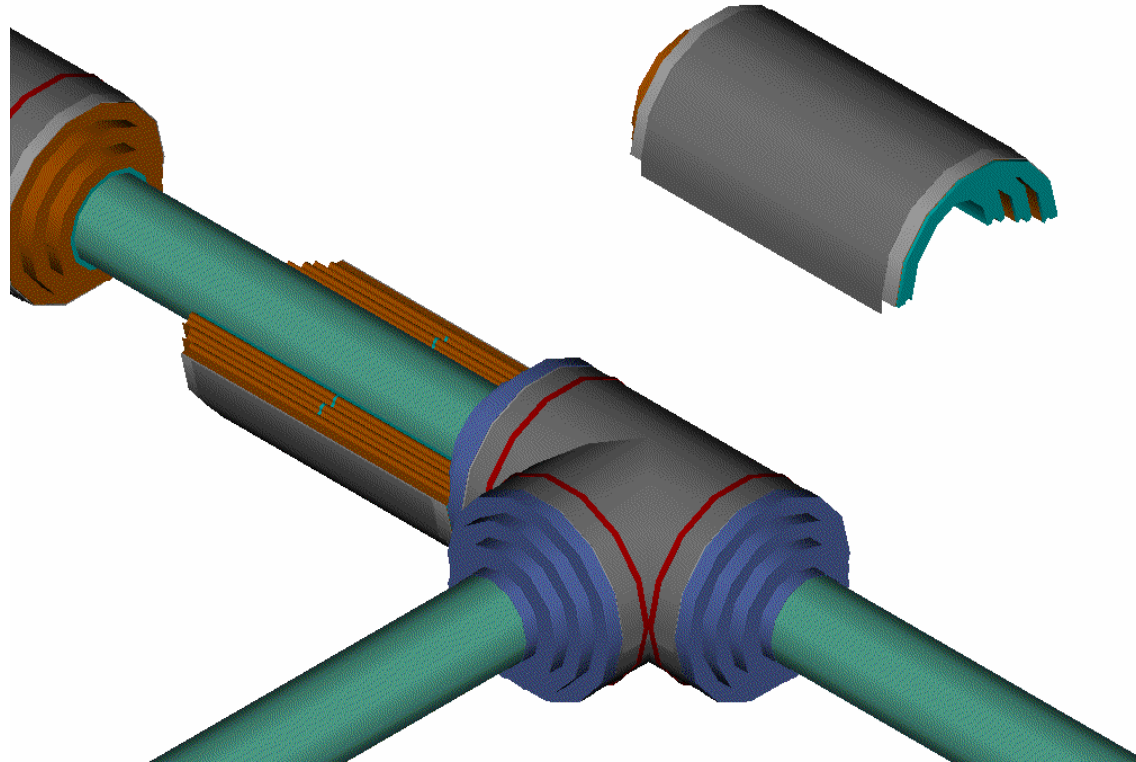
# What is Cryo-Lag



# What is Cryo-Lag



# What is Cryo-Lag



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## **Cryo-Lag<sup>®</sup> Current Cryogenic (very low temperature) applications.**

- <-150°C Pipe Work
- LNG Production
- LNG Revaporisation
- Air Separation

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## Cryo-Lag Other Applications

- Sub Zero Applications (between 0°C and -150°C)  
such as
  - Natural Gas dewpoint control
  - De-ethanisers, Depropanizers, Debutanizers
  - Industrial Refrigeration (e.g. NH<sub>3</sub>, C<sub>3</sub>/C<sub>4</sub>)

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**The next step to commercialise Cryolag is to select a country to manufacture and market the product to demonstrate all the advantages of the product.**

- **Country selected – China**
- **Why China?**
- **China is the largest potential market for LNG**
- **China is therefore the best location to fully commercialise Cryolag.**
  
- **KTL has therefore formed a Joint Venture with:-**
  - **Petro China Construction Company No. 2 (PCC)**
  - **Jilin Chemicals Company Ltd (Jilin)**

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**To achieve full commercialization for China Market.**

**The joint venture agreement key points:-**

Development of Cryolag to be undertaken by PCC.

- All subsequent commercial manufacture and marketing of Cryolag to be carried out by JV.
- All offshore technical support from KTL to be paid for by JV company under Technical Services Agreement
- China Cryolag experience and will be made available to KTL Technologies Ltd for overseas market.
- KTL Technologies Ltd will have exclusive position for market outside China.

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## Brief Details of KTL's JV Partners

### **PetroChina and PetroChina Construction Company No. 2 (PCC)**

PetroChina Company Limited (PetroChina) was established as a joint stock company with limited liabilities under the Company Law of the People's Republic of China (the PRC) on November 5, 1999 as part of the restructuring of China National Petroleum Corporation (CNPC). In the restructuring, CNPC injected into PetroChina most of the assets and liabilities of CNPC relating to its exploration and production, refining and marketing, chemicals and natural gas businesses.

PetroChina, one of the largest companies in the PRC in terms of sales, is engaged in a broad range of activities related to petroleum and natural gas, including:

- *Exploration, development and production of crude oil and natural gas;*
- *Refining, transportation, storage and marketing, including import and export, of crude oil and petroleum products;*
- *Production and sale of chemical products; and*
- *Transmission, marketing and sale of natural gas.*

The American Depositary Shares (ADSS) and H shares of PetroChina were listed on the New York Stock Exchange and the Stock Exchange of Hong Kong Limited on April 6, 2000 and April 7, 2000, respectively.

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## **Brief Details of KTL's JV Partners (continued)**

### **Jilin Chemical Company Ltd. (Jilin)**

Jilin Chemical Group Fine Chemical Co., Ltd. is affiliated with the CNPC Jilin Chemical group and are medium scale, hi-tech research & production chemical enterprise.

Jilin was founded in 1959 as the Jilin Chemical group research institute. This research and development center has now become one of 8 national scientific research units. Jilin's research unit has made 460 scientific breakthroughs, 110 of these items have helped to fill a need in the chemical industry, 11 of these are patented, and 51 have received national and provincial awards.

Jilin's products include isobutene, low and medium molecular weight polyisobutylene, vanillin, antioxidants, aniline catalysts, phosphorous products, and plasticizer DHAs. Jilin have also built 2,000 tons/year EBS equipment, 200 tons/year ethyl vanillin equipment using the acetaldehyde acid method of synthesis, 2,000 tons/year vanillin equipment by acetaldehyde acid method synthetization, 10,000 tons/year isobutene equipment, 3,000 tons/year polyisobutylene and 15,000 tons/year MIBK equipment.

Jilin have become the largest fine chemicals manufacturing base in China.

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**PCC plan to manufacture Cryolag and apply the product to one of Jilin Chemical cryogenic pipe line projects to:-**

- Validate the design
- Analyze technical data
- Analyze field data following application

**Which will include:-**

- Review of materials specifications
- Selection of manufacturers
- Review of trial insulation application

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## Cryo-Lag<sup>®</sup> Intellectual Property

**Watermark** ongoing application and maintenance responsibility.

### **Patents:**

Australia (inc. Registered Trademark)

Taiwan

USA & Philippines

### **Patents Pending:**

Korea(2006)

Malaysia(2006)

Europe(2007)

Thailand (2008)

Japan (2009)

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## **Potential Market for Cryolag Application**

- **LNG Bullish market globally.**
  - \*20 year strong demand forecast.
  - \*Significant new project activity internationally
  - \*USA, China, India, Australia, Africa, Europe, Thailand, Malaysia, Indonesia, Middle East.
- **Mature LNG market (maintenance)**
  - \*Middle East, Japan, Australia, Europe, Korea, Malaysia, USA
- **Preliminary indications**
  - \*LNG: Rapidly Growing Worldwide
  - \*Timing is good based on up coming activity
  - \*Market acceptance/prequalification time could be accelerated by Chinese JV
  - \*Planned approach appears to be sound

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## Summary

- KTL has established low cost solution to fully commercialize Cryolag.
- KTL has excellent partners for China cryogenic market.
- Cryolag to be launched in potentially the world's largest cryogenic market.
- Following successful Cryolag application in China KTL will have a first class platform to launch Cryolag elsewhere in the world such as USA, Europe, Australia and the Middle East.