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## Introduction to the EFRC



*René Peters*  
*Chairman of*  
*the EFRC Board*

## Overview

- *European Forum for Reciprocating Compressors*
- *History*
- *Aim*
- *Board*
- *Members*
- *Working groups and activities*
  - *student promotion*
  - *pre-competitive R&D*
  - *standardization*
  - *knowledge exchange*
- *EFRC conference*
- *EFRC training and workshops*



*EFRC training on condition monitoring and diagnostics*

*EFRC introduction*

# History

*EFRC has been founded in 1999 by:*

- NEA
- LMF
- Hoerbiger
- TNO
- TU Dresden
- Thomassen Compression Systems
- Wartsila Compression Systems
- Burckhardt Compression



**HOERBIGER**

TECHNISCHE  
UNIVERSITÄT  
DRESDEN

THOMASSEN  
COMPRESSION  
SYSTEMS



**Burckhardt  
Compression**

WÄRTSILÄ



- *To serve as a platform to facilitate exchange of information between vendors, operators and scientists working in the field of reciprocating compressors.*



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## Aim of the EFRC

1. Knowledge transfer
  - Conferences
  - Internet
  - Workshops
  - Training and seminars
2. Perform joint research
  - Pre-competitive
  - Aiming at improving the performance of the recip
3. Improving the image of the reciprocating compressor
  - Student workshops
  - Field surveys



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## EFRC board

- **Chairman: Dr. Rene Peters**
  - TNO Energy
  - The Netherlands
- **Secretary: Dr. Peter Steinrück**
  - Hoerbiger Kompressortechnik Holding GmbH
  - Austria
- **Treasurer: Dr. Matthias Tanner**
  - Burckhardt Compression AG
  - Switzerland
- **Secretary support: Helen Neuber**
  - TU Dresden
  - Germany



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## Current Members

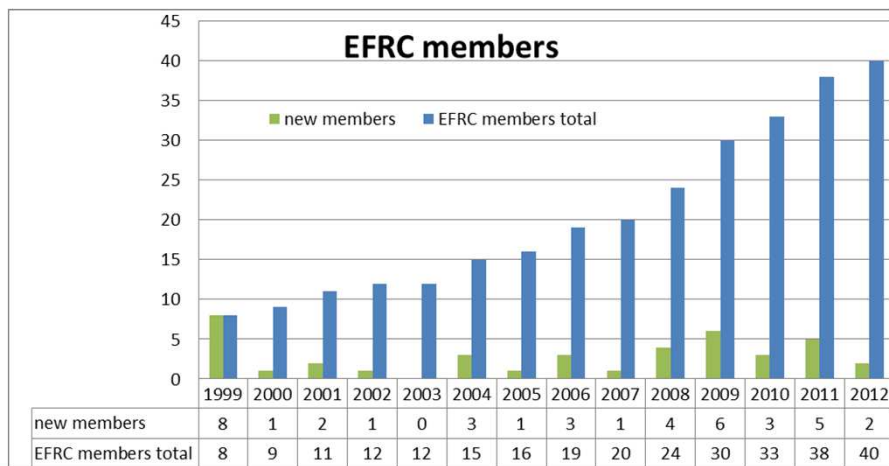
41 members

- 14 manufacturers
- 5 operators
- 1 packager
- 15 component suppliers
- 4 technology institutes
- 2 media representative



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## Overview EFRC members



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## Working groups and activities

- **Pre-competitive R&D**
  - Peter Duineveld – Howden Thomassen Compression
  - Initiate and fund R&D projects sponsored by members
- **Standardisation**
  - Andre Eijk - TNO
  - Work on improvement of API 618 and ISO 13707 standards
- **Student promotion**
  - Gunther Machu – Hoerbiger
  - Organise bi-annual student workshop
- **Marketing and EFRC conference**
  - Martina Frenz - NEA
  - Organise bi-annual EFRC conference
  - Maintain website [www.recip.org](http://www.recip.org)



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## Student promotion

- Site visit OEM's and operations with recipis for international students
- Participation from many EU countries
- Presentations by EFRC members
- Excursions to production sites
- Exercise for students (incl. award!)



- 2002 Benelux and Germany
- 2004 Poland
- 2006 Italy and Switzerland
- 2008 Austria
- 2010 United Kingdom
- 2012 France



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## EFRC conference

- International conference on reciprocating compressor development and operation.
- Strong international participation
- Papers by OEM's, operators and suppliers
- Training seminar for young engineers



- 1999 Dresden
- 2001 The Hague
- 2003 Vienna
- 2005 Antwerp
- 2007 Prague
- 2008 Dusseldorf: International Rotating Equipment Conference
- 2010 Florence
- 2012 Dusseldorf
- 2014 Vienna (10-12 September 2014)



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## EFRC Joint Research

- *Combining forces of EFRC members to solve / investigate problems which are beyond the scope of a single player*
- *Basic research and precompetitive research carried out at research institutes or universities*
- *Scientific arm of the reciprocating compressor community*

**TNO** innovation  
for life



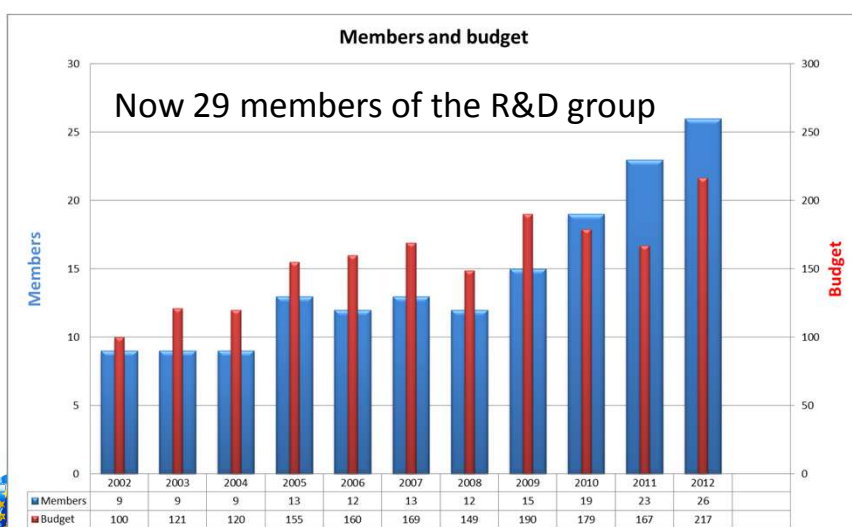
TECHNISCHE  
UNIVERSITÄT  
DRESDEN

**RWTHAACHEN**



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## pre-competitive R&D budget



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**EFRC**

## The EFRC Research Group

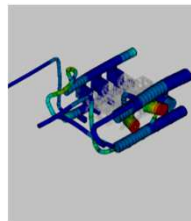
- *Open to all EFRC members*
- *Annual budget funded by participating members*
- *Selection of ideas*
- *Approval of projects*
- *Projects are executed by research partners*
- *Project controlling*
- *Results are owned by EFRC*
- *Research results are disclosed to EFRC research group members only*



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## Example project: Allowable Vibration levels

- **Motivation:**
  - Vibrations are an important design criteria for installations
  - Existing standards are considered to be not specific
- **Result:**
  - EFRC Guideline on vibrations
  - Working towards ISO standard
- **Approach:**
  - Literature search
  - Interviews with stakeholders
  - International Workshop
  - Report



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## EFRC membership

- Membership open for all companies actively connected to the reciprocating compressor (design, research, manufacture, operate)
- Entrance fee: 2500 euro
- Annual fee: 1200 euro
- Not for profit annual fee: 600 euro
- Registration from on [www.recip.org](http://www.recip.org)



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Please respect



**NO SMOKING**

throughout the event!



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Please switch off your



**Mobile**

during the session!



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Thank you for your interest

For more information, contact

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Or visit [www.recip.org](http://www.recip.org) for more information about EFRC

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