

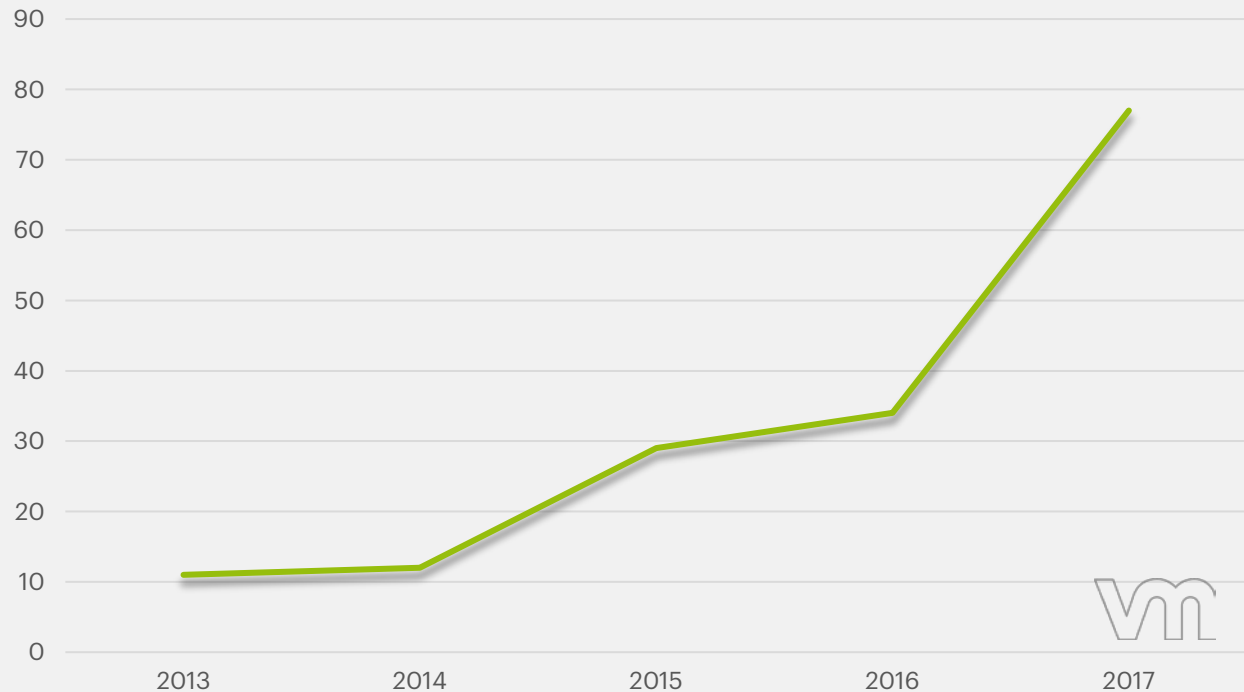
We are
Vibrationmaster s.à r.l.

We believe in
Test & Measurement Equipment to help build a safer world

Presenting
**Trends in published scientific papers
related to Fastener Self-Loosening**

RESEARCH ACTIVITY ON FASTENER SELF-LOOSENING IS AT AN ALL-TIME HIGH

Number of scientific articles published worldwide on the subject of Fastener Self-Loosening



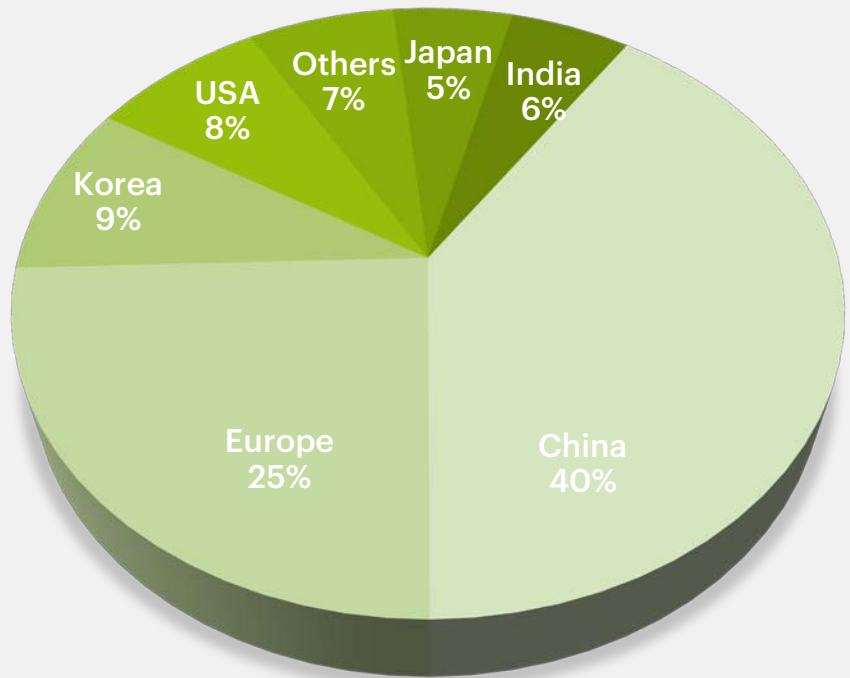
800%

GROWTH FROM 2013 TO 2017

There is a strong trend towards intensive research activity on Fastener Self-Loosening aiming at improving Fastener and bolted joint performance.

CHINA IS THE LEADING CONTRIBUTOR OF SCIENTIFIC ARTICLES

Geographic origin of the scientific articles related to Fastener Self-Loosening



40%

CONTRIBUTION FROM CHINA

China alone accounts for 40% of all scientific articles on the topic of Fastener Self-Loosening during the last 5 years.

TEST & MEASUREMENT EQUIPMENT SOLUTIONS

**Design safer and more reliable products
with solutions from Vibrationmaster**

TORQUE / TENSION

Improve assembly quality

VIBRATION

Improve in-service reliability

JOINT INTEGRITY

Reduce cost and weight

CONTACT US

**Contact us to discuss how the trends presented
in this document will impact your business**



Morten Schiff, Managing Director

morten.schiff@vibrationmaster.com

Tel: [+352 24 51 30 19](tel:+35224513019)

Vibrationmaster s.à r.l.
28, route de Capellen
8279 Holzem, Luxembourg

vibrationmaster.com

Connect with Vibrationmaster on [LinkedIn](#) 

Data sources :

www.researchgate.net

<https://link.springer.com/>

<https://ci.nii.ac.jp/>

www.sciencedirect.com

<http://ieeexplore.ieee.org>

www.jstage.jst.go.jp

Selection of articles published in scientific journals from 2013 to 2017 on the subject of "Fastener Self-Loosening", "Junker test", "bolt loosening" and associated keywords