



Integration & Transformation of Data for Analysis & Quality Control in Real Time

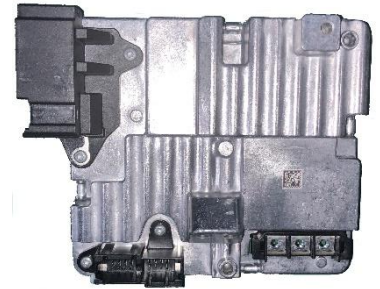
Josue Fernandez



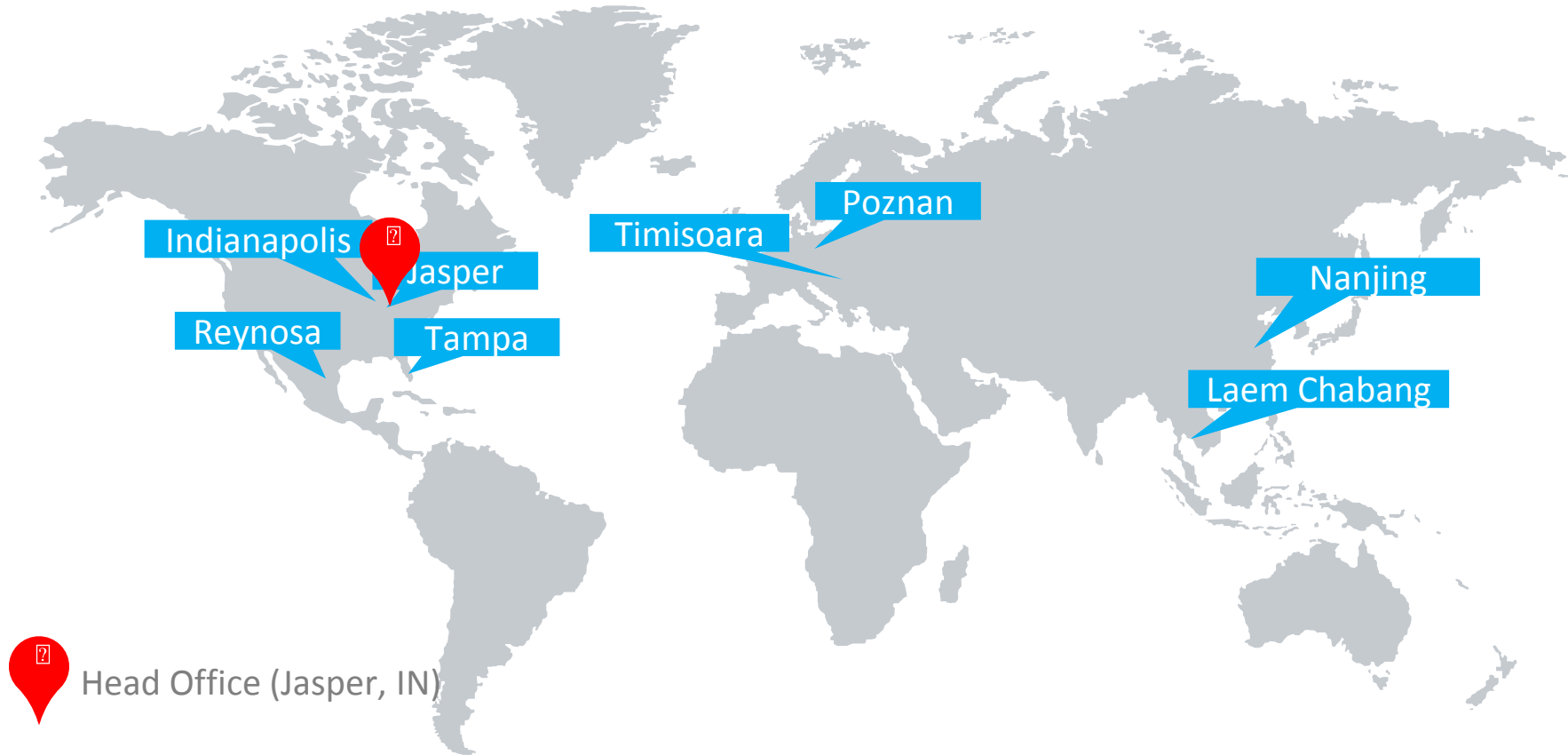
Kimball Electronics

Who We Are?

- Leading contract manufacturer
- Serve Markets: Medical, Industrial, Public Safety, Automotive



Kimball Electronics Facilities

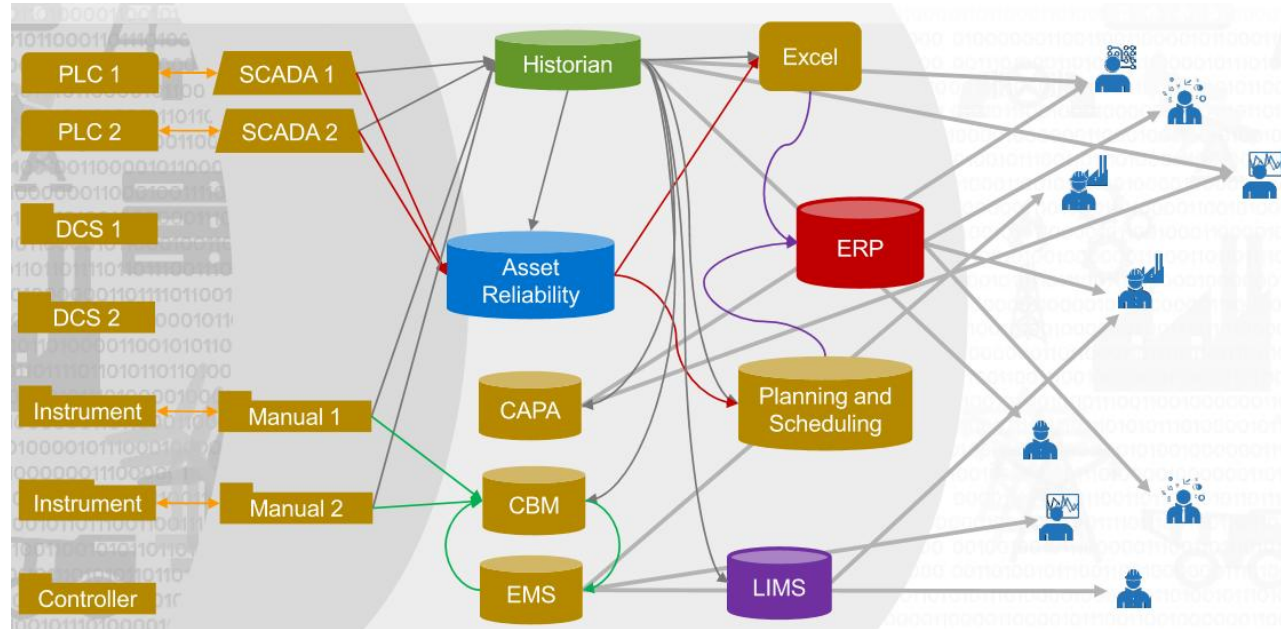


Kimball Electronics Capabilities



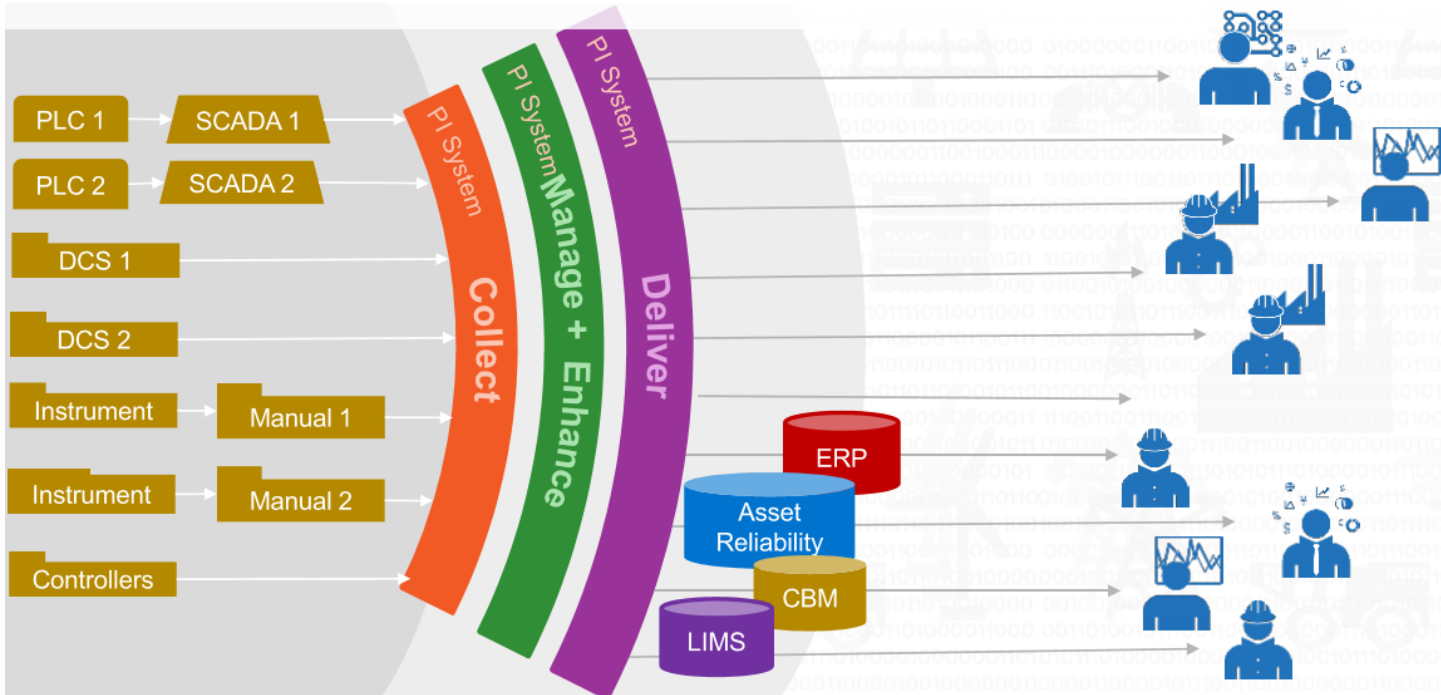
Our Challenge

- Equipment has its own software to monitor itself, but data is not shared.
- Several systems managing different things and no correlational analysis can be done easily.
- Statistical analysis need to be done manually after extracting data from the equipment.



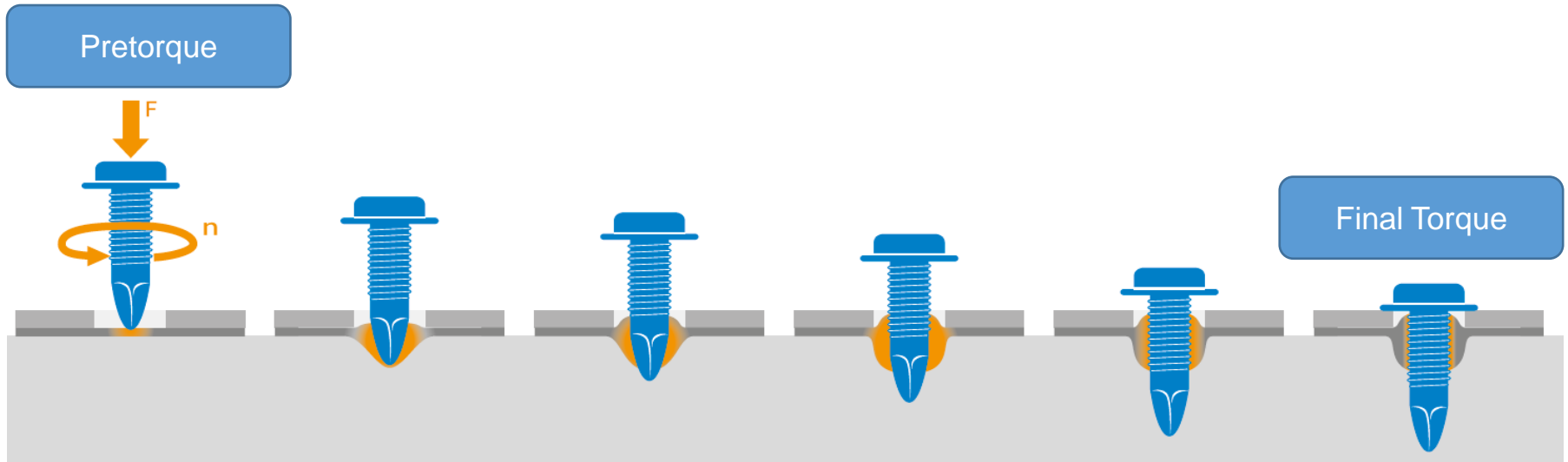
The Proposed Solution

Use PI System as a centralized repository for all data.

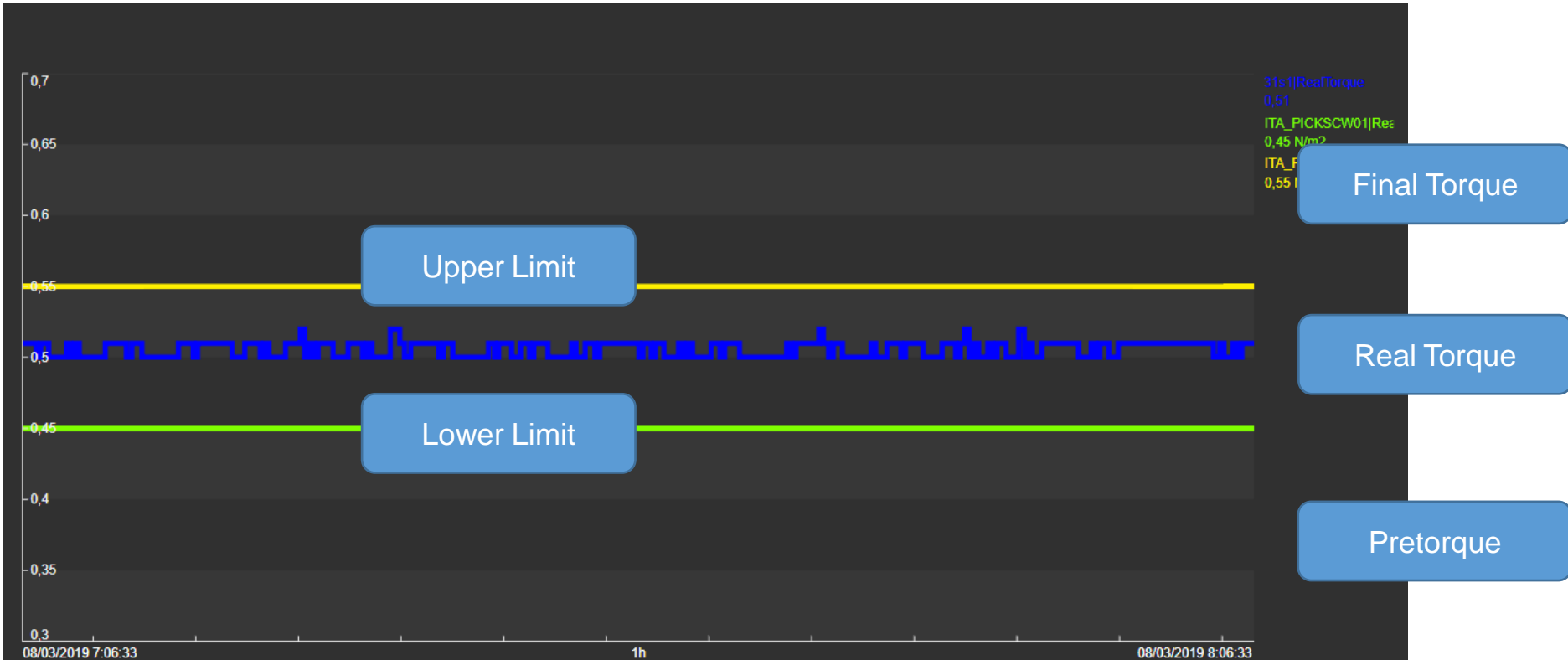


Example

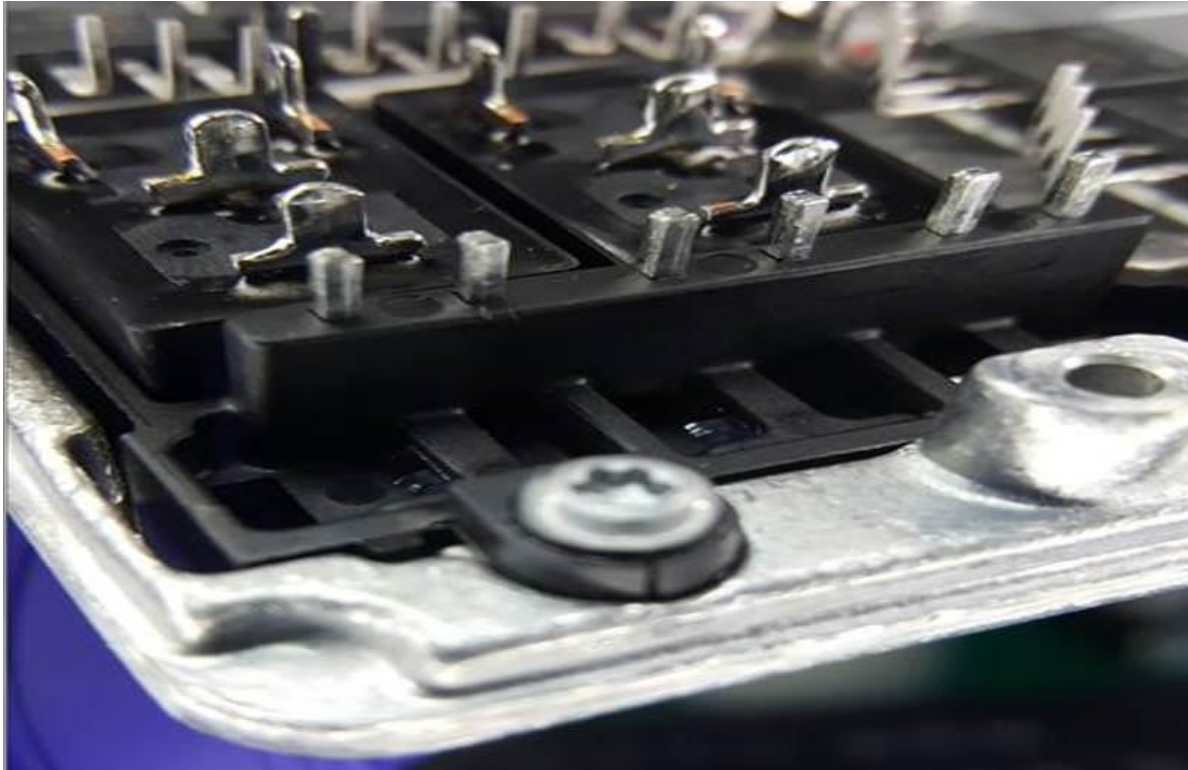
$$\textit{Real Torque} = \textit{Final Torque} - \textit{Pretorque}$$



Example



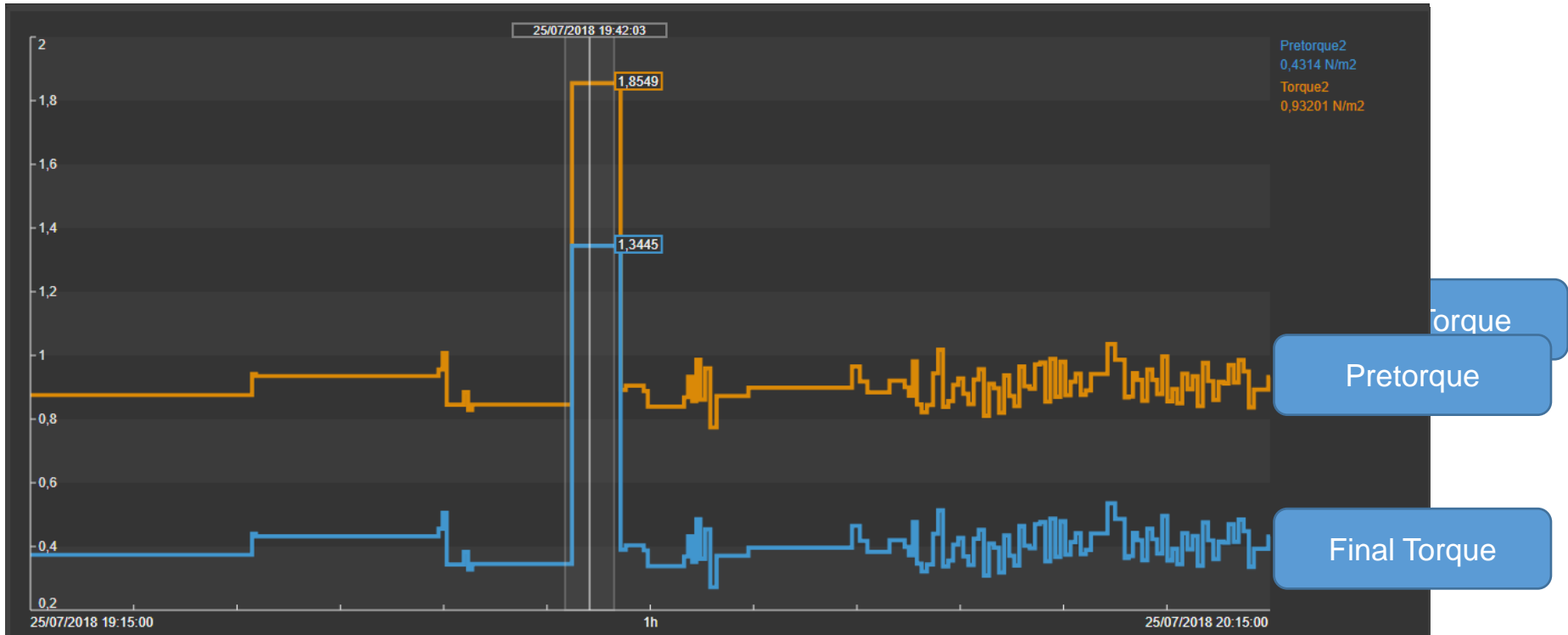
Example



- Customer complaint: broken connector
- Unit was manufactured 6 months ago.
- Unit passed all our controls
- Our Traceability system says it passed all the tests

How did this happen?

Example



Result

- Identified easily the scenario that generated this failure
- Took action and added a new control
- Saved \$50k to \$100k in sorting material at customer facility
- Saved time in root cause analysis

Benefits using PI System



Real Time Data



Sharing Data



Analytics Tools



Compression

Speaker



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- IT Manager
- Kimball Electronics
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Questions?

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the **microphone**

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 DZIĘKUJĘ CI NGIYABONGA TEŞEKKÜR EDERIM GRACIES
 OBRIGADO شڪرا SALAMAT
 DANKON TANK TAPADH LEAT
 DANKIE TERIMA KASIH
 KÖSZÖNÖM
 СПАСИБО
 PAKMET CIZGE
 GO RAIBH MAITH AGAT
 БЛАГОДАРЯ GRACIAS
 МАНАДСАНИД
 ТИ БЛАГОДАРАМ
 TAK DANKE
 RAHMAT
 HATUR NUHUN
 CẢM ƠN BẠN
 WAZVIITA
 FALEMINDERIT
 DANK JE
 AČIŮ SALAMAT MAHALO IĀ 'OE TAKK SKALDU HA
 GRAZZI PAKKA PĒR
 PAXMAT CAĞA
 EΥΧΑΡΙΣΤΩ GRATIAS TIBI
 MAHALO IĀ 'OE TAKK SKALDU HA
 ありがとうございます
 SIPAS JI WERE TERIMA KASIH
 UA TSAUG RAU KOJ
 ТИ БЛАГОДАРАМ
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THANK YOU



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