



Energy Sector Management
Assistance Program



THE WORLD BANK
IBRD • IDA

ESJA
ENGINEERING

Localizing Technical Services

May 28, 2024

©Supreme Energy, Indonesia

Few notes on localizing technical services

May 2024
Johann Jonasson Co-founder and Chairman of Esja
Engineering.
Earlier, co-founder, Chairman and CEO of Deilir
Technical Services



Few notes on localizing technical services

Someone asked..

Why should we change ?

Why should we change ?

- Looking back to our story in Iceland (current state in 2008)
 - Economy downturn, local currency collapsed
 - Price for foreign equipment services doubled (due to exchange rates on ISK and US\$)
 - Power plant companies who had borrowed millions in US\$ for their investments, had their debts almost doubled (in ISK), meaning they were in tough situation.
 - Market demand for green power was still foreseen in Iceland
 - Power plants needed to increase their production to meet the market needs and lower their cost.
 - But how ?
 - Maintenance cost was bound to increase in foreseeable future as equipment wears.

Why should we change ?

- Looking back to our story in Iceland (current state in 2010)
 - Lacking knowledge in turbine and generator assessment, as well as in evaluating their current condition and determining the necessary level of repair or fault analysis, meant the geothermal power producer had to rely entirely on OEMs overseas or other foreign service providers.
 - Thoughts of “replacing or repairing damaged turbines” often ended up by shipping rotors overseas.
 - Such repair would take 1-1.5 years
 - With huge cost, often unforeseen despite official tenders
 - Huge risk in transport
 - And difficult to observe the repair process (“loss of ownership” not within reach)
 - The power plant was left idle with no knowledge being build up within their company on repairs..
- So, what is next ?

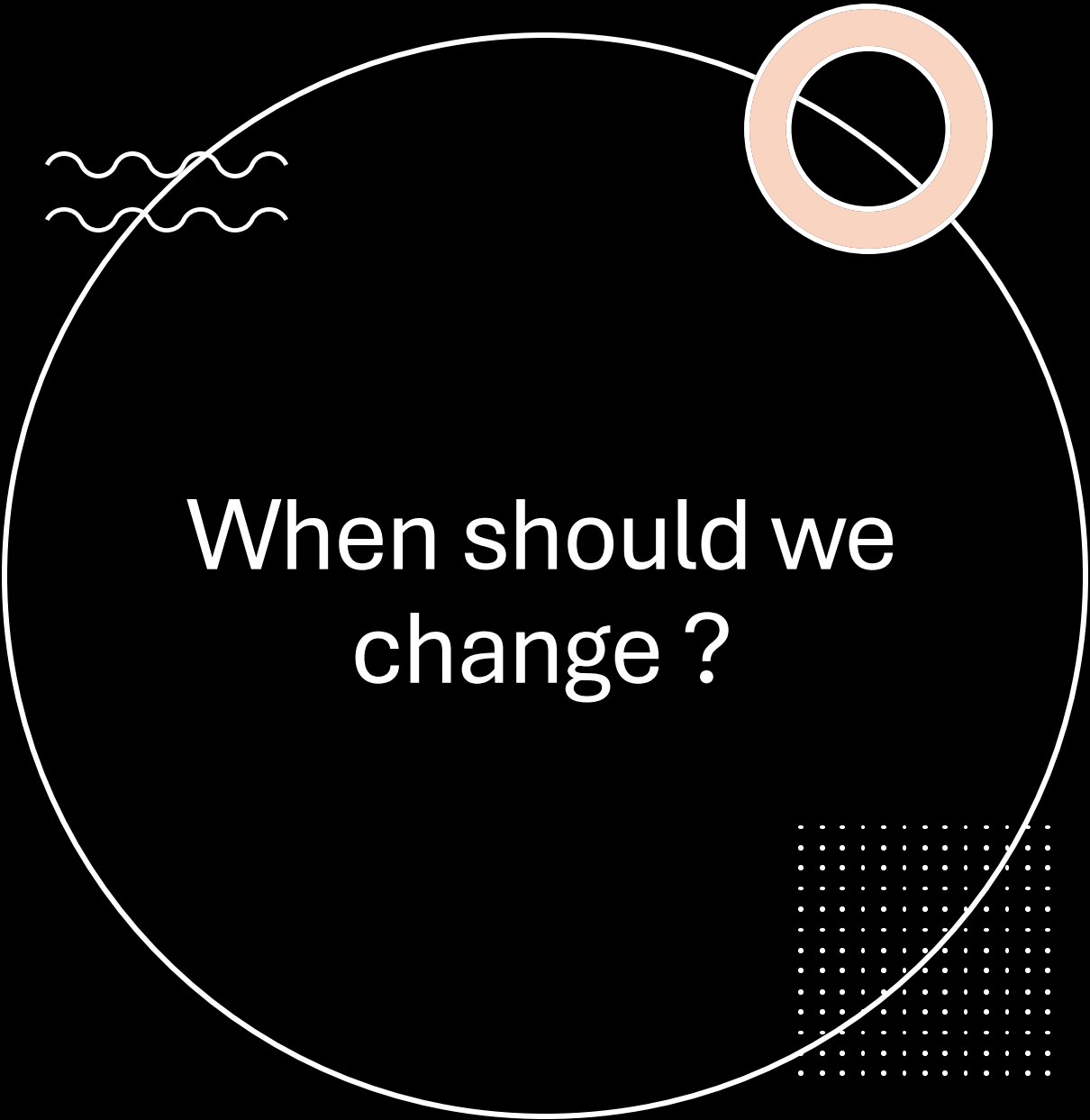
How did we change ?



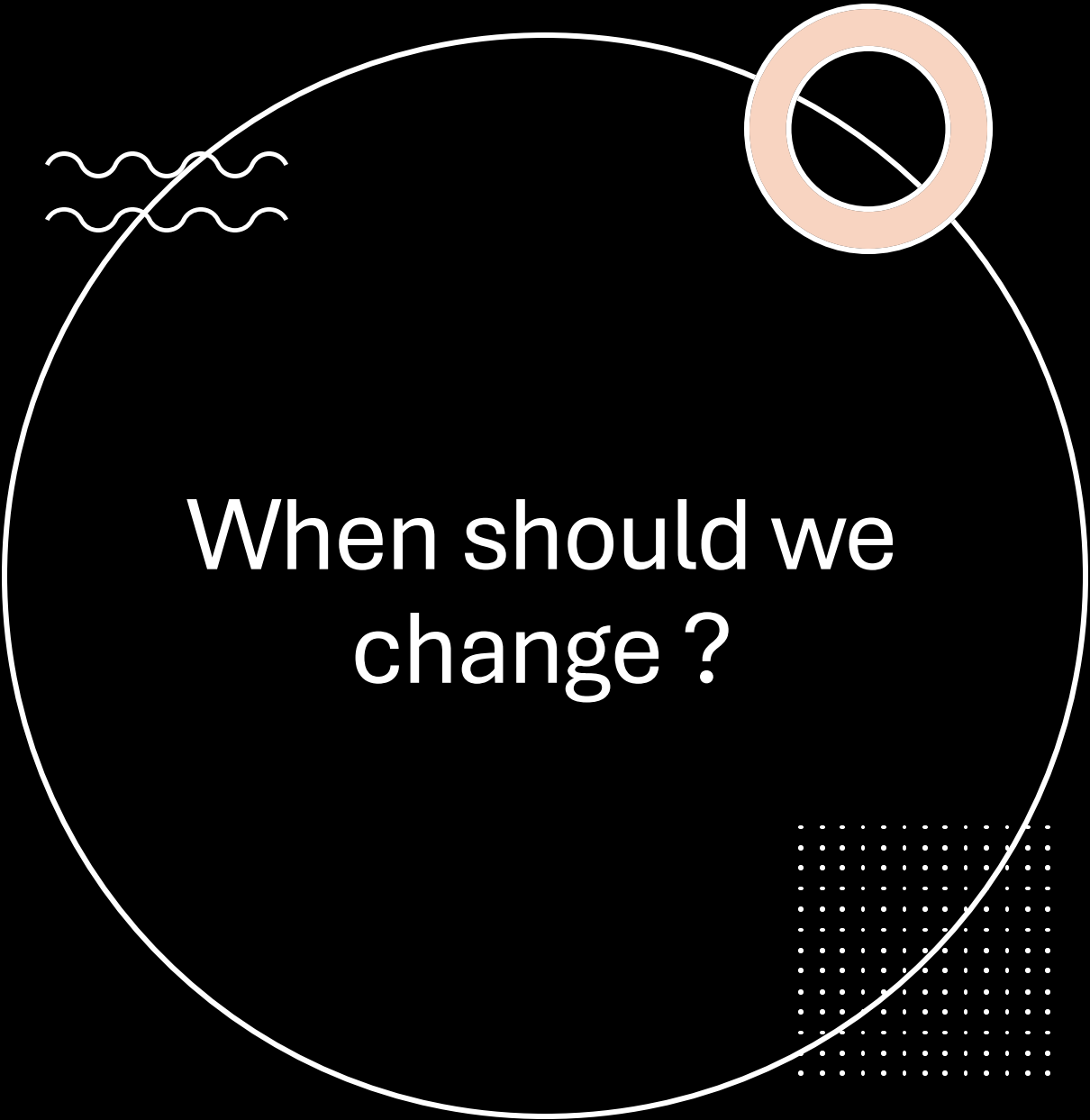
How did we change ?

- (2011) Power plant management needed to come up with **a new long lasting maintenance strategy**
- **Main goals :**
 - Maximize power plant availability.
 - Lower operation and maintenance cost.





When should we
change ?



When should we
change ?

A.s.a.p..!

Next steps..

- (2012) Strategy and goals in place, preparation starts..
 - Our customer (ON Power) was willing and able to develop the needed skills and invest in both new equipment and local knowhow build up.
 - Needed to find Local service provider who was willing to contribute and together build an action plan and also attract foreign experts to provide support in each of the needed fields. (our network)
-



The progress..

- (2013) We, the local service provider had already started building strategic alliance with both American and European experts in turbines, generators, mechanical attributes and other specialty equipment services.
- Knowledge transfer was accepted.
- Team build up in Iceland started.
- Our business plan was to create a true value for our customer through co operation and sharing of knowledge.
- Started our first major steam turbine repair.



What have the advantages of localizing this work been?

ON Power has one of the world's highest availability (Geothermal power plants)

Time for turbine overhauls and generator field has been drastically shortened and is done locally.

Spare part readiness before every outage is 100% as older parts are refurbished locally, "during no outage season" thus using the same crew partially.

Improving parts design and material selection using more durable materials than original parts fitting better for the different steam source /steam quality.

Knowledge now local, response time less than 20 min to site.. When needed.. Now less needed..

Both parties learned equipment condition assessment, thus able to develop skill to determine the recommended scope of repair, making decisions build on knowledge and facts instead of "feelings".

Huge maintenance cost savings and local job creation..

2013 the first rotor repair was performed. In 2020 we had performed 7 major rotor repairs including diaphragms repairs and several generator fields rewinds onsite.

What have the advantages of localizing this work been?



- "I believe the greatest value was in collaboratively building knowledge with our customers and within their operations. This empowered their employees to make informed decisions about maintenance requirements, thereby enabling better risk assessment, even when deciding to postpone certain maintenance tasks."
- That's worth millions of dollars..

- Johann Jonasson
- www.esja.it
- +3548640042
- johann@esja.it

ESJA
ENGINEERING

Thank you..

