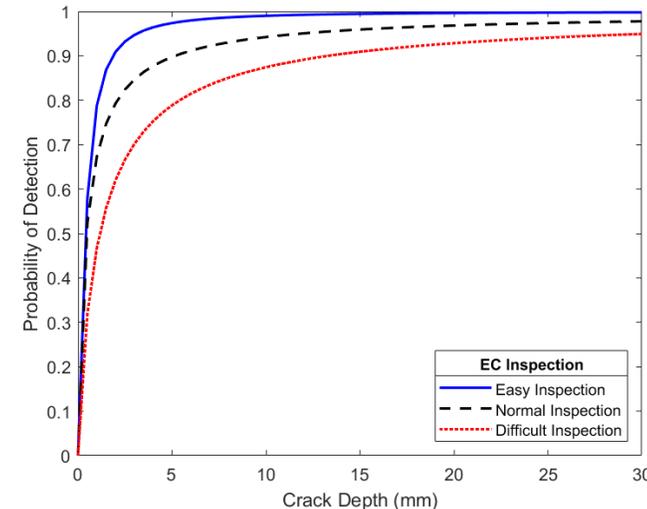
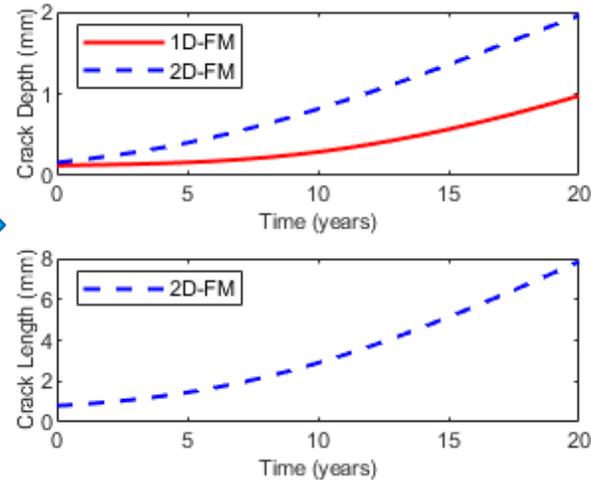
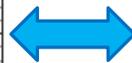
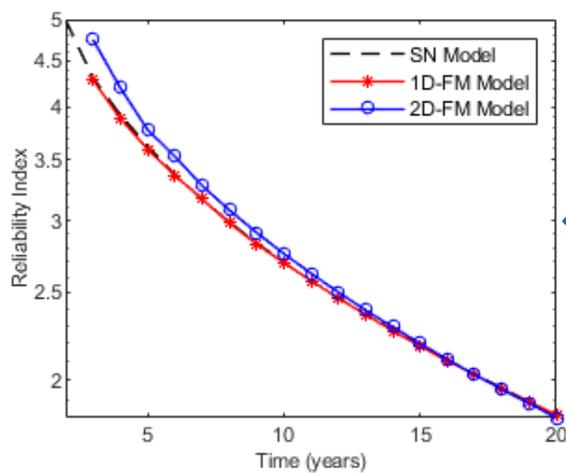


**Goal – To identify optimal inspection plan with minimum expected cost**

Deterioration Modelling (Fatigue and Fracture Mechanics)

Inspection Modelling

Cost Modelling



-Failure cost

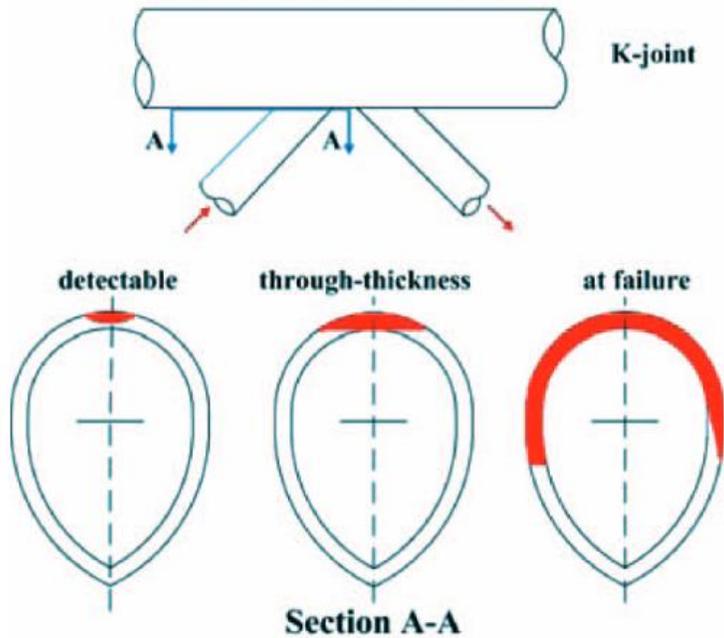


-Inspection cost



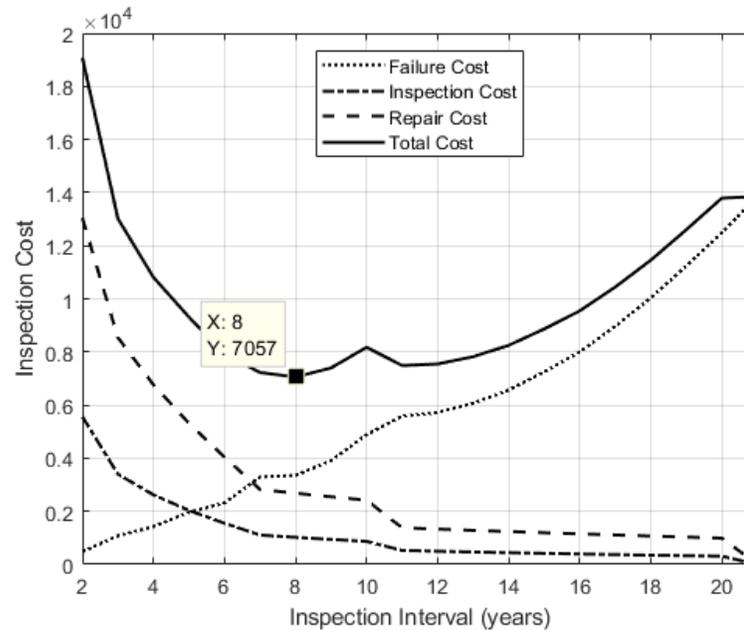
-Repair cost

Reduction of total expected cost – by using simplified **Failure Assessment Diagram** as failure criteria



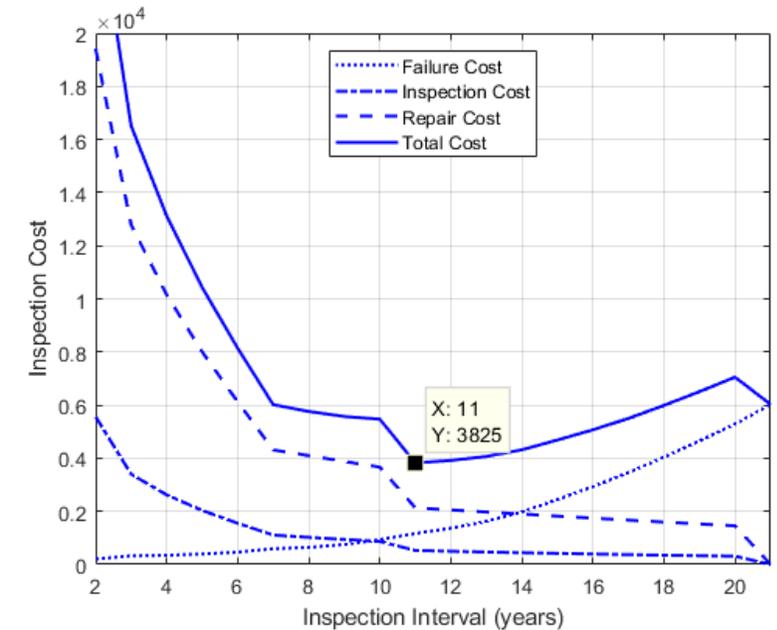
(a) Crack growth in an unstiffened tubular K-joint.

Through-Thickness + 1D FM Model



Vs

FAD + 2D FM Model



**\*\* Limitations – for redundant structures only, and high fracture toughness of the material**