



# **DELTA<sup>4</sup> DISCOVER :** **A MUST HAVE TOOL FOR** **MODERN RADIOTHERAPY**

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ScandiDos Symposium at ESTRO

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# Discover overview

- Hardware

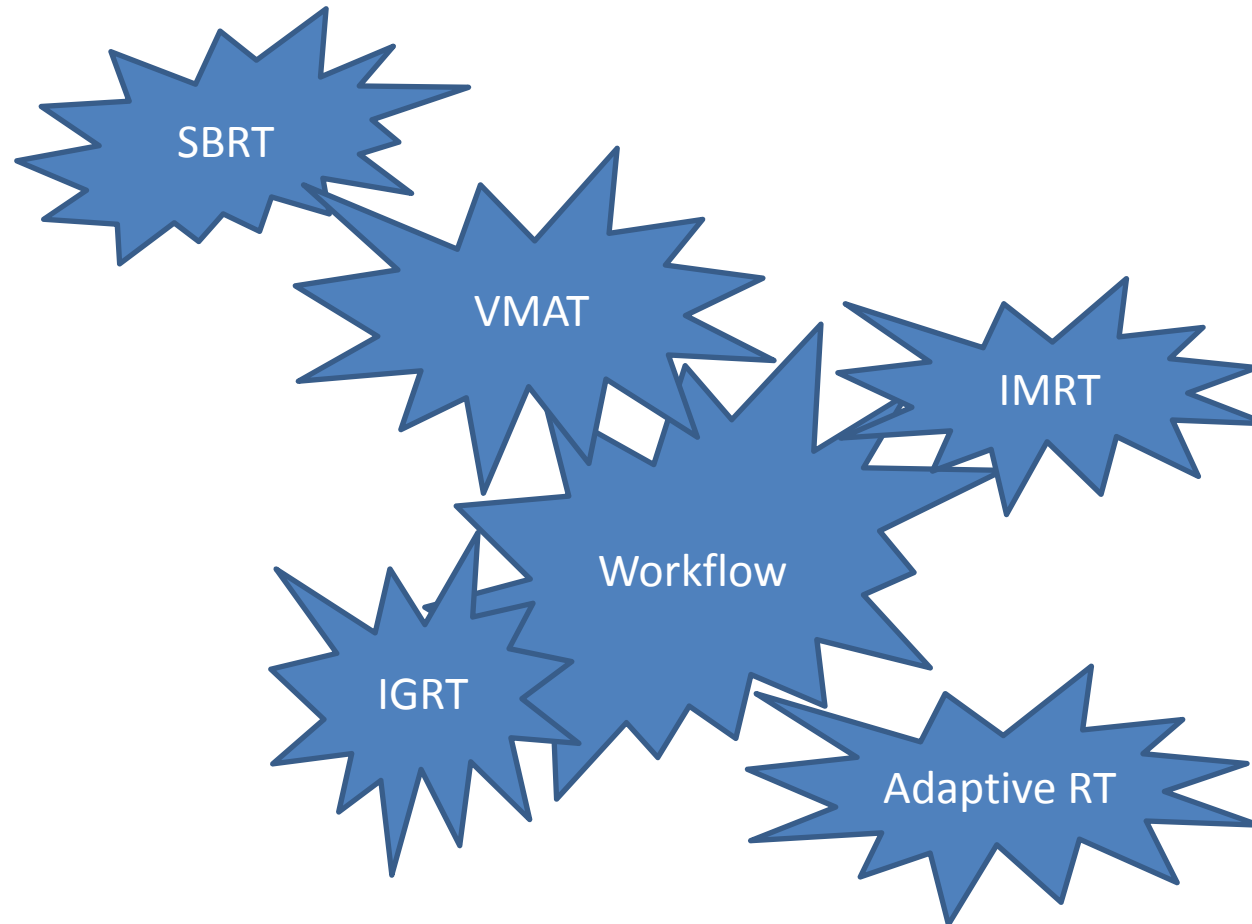
- 4040 diodes in 20 x 25 cm<sup>2</sup> centered field
- Sliding on machine head
- Powered by 4 independant batteries



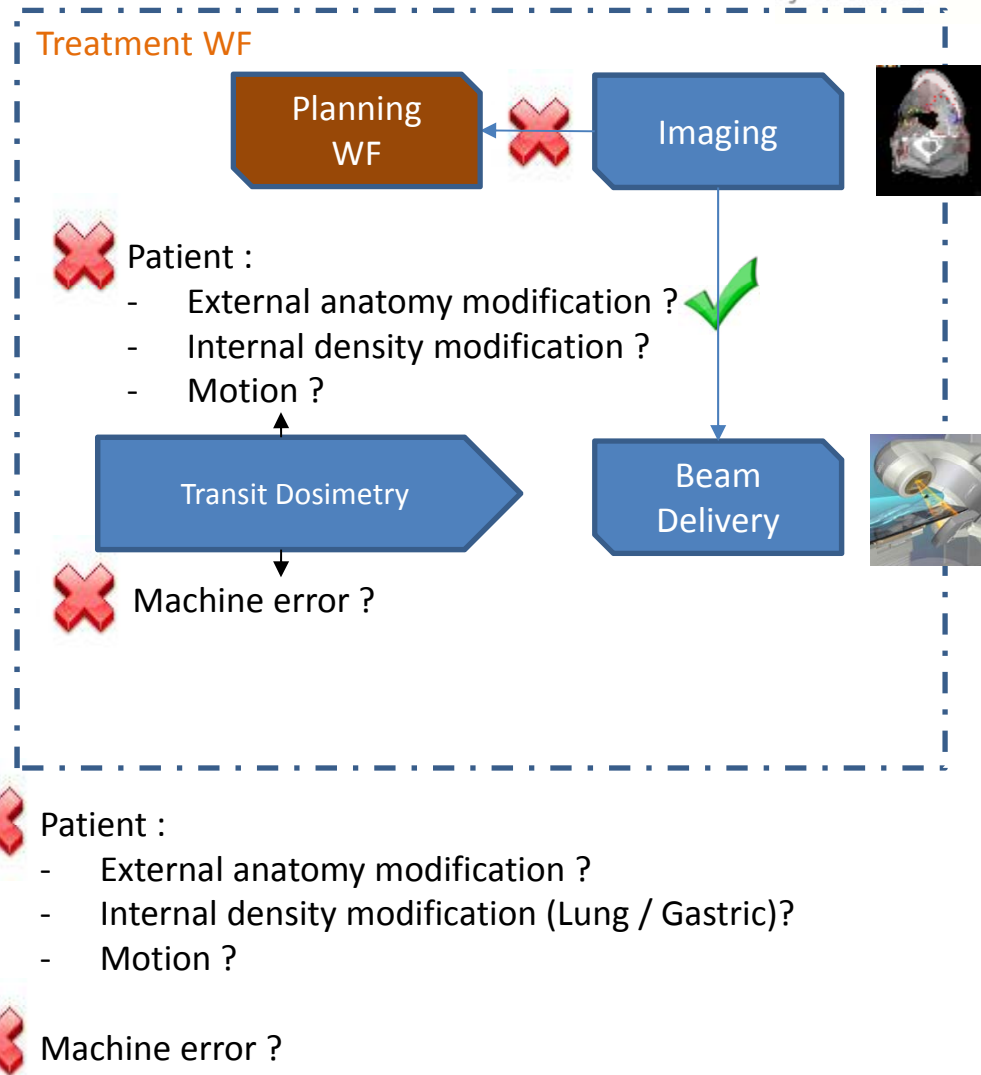
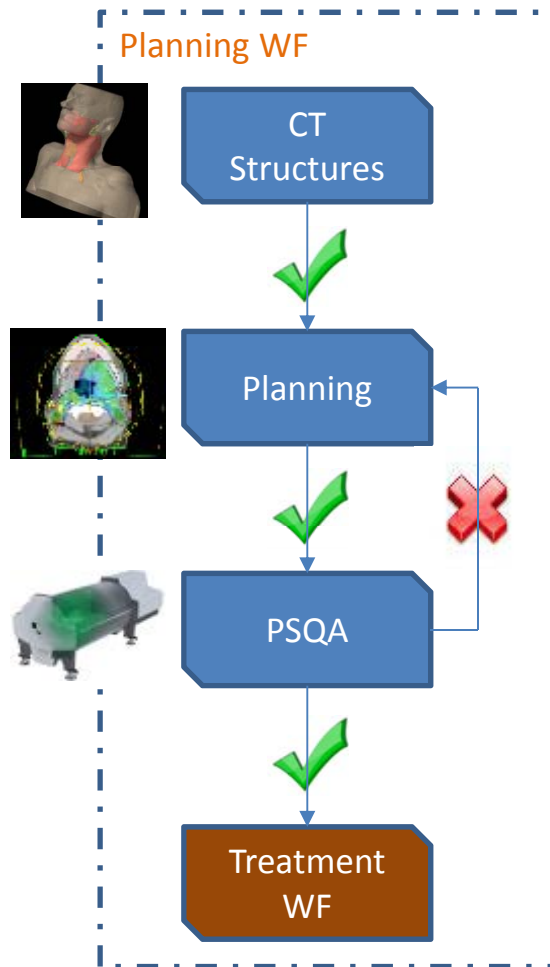
- Capabilities

- MLC position measurements
- Gantry and Collimator angle measurements
- Fluence measurement
- Dose, DTA and gamma calculation based on measurements

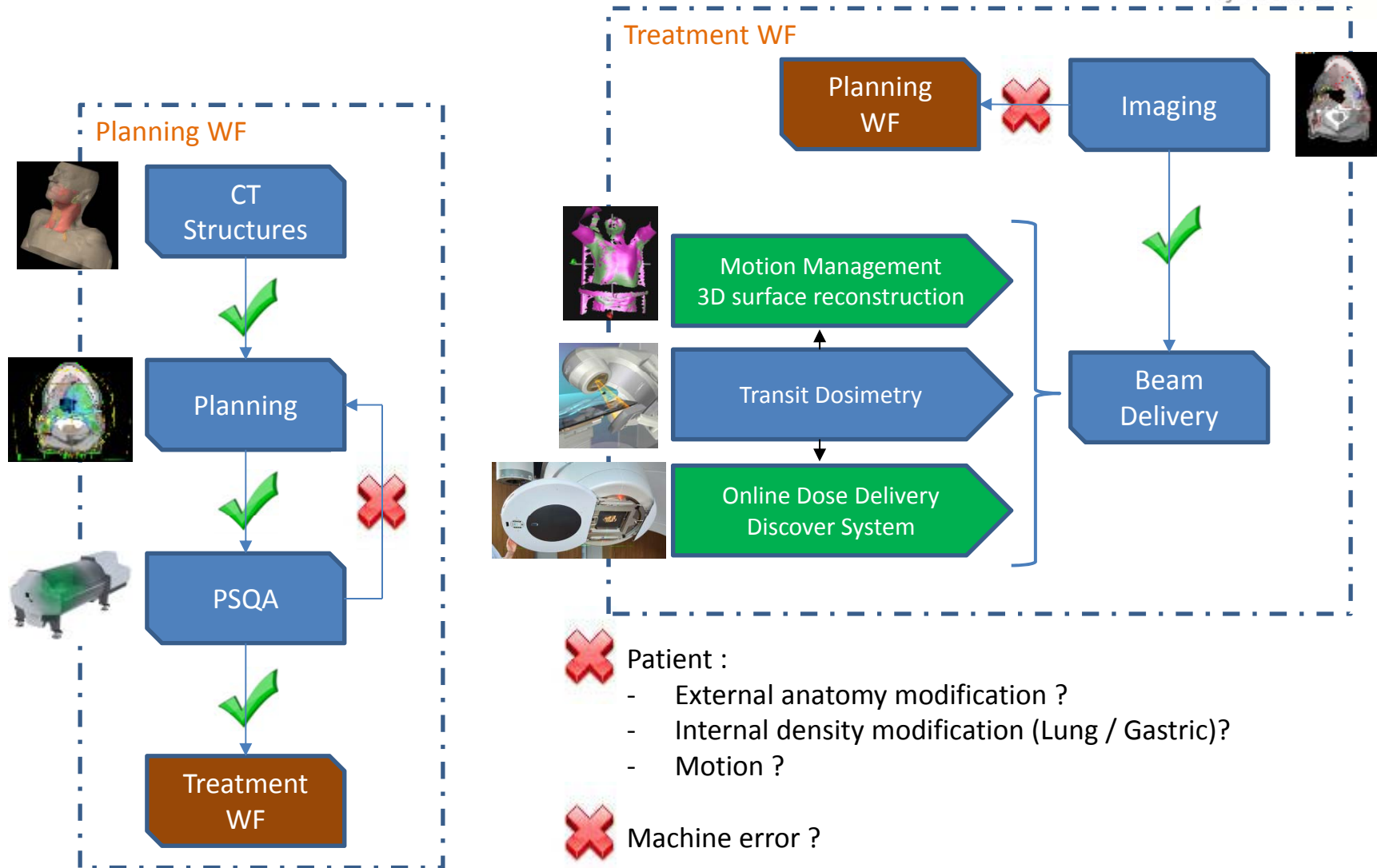
# What is Modern RT ?



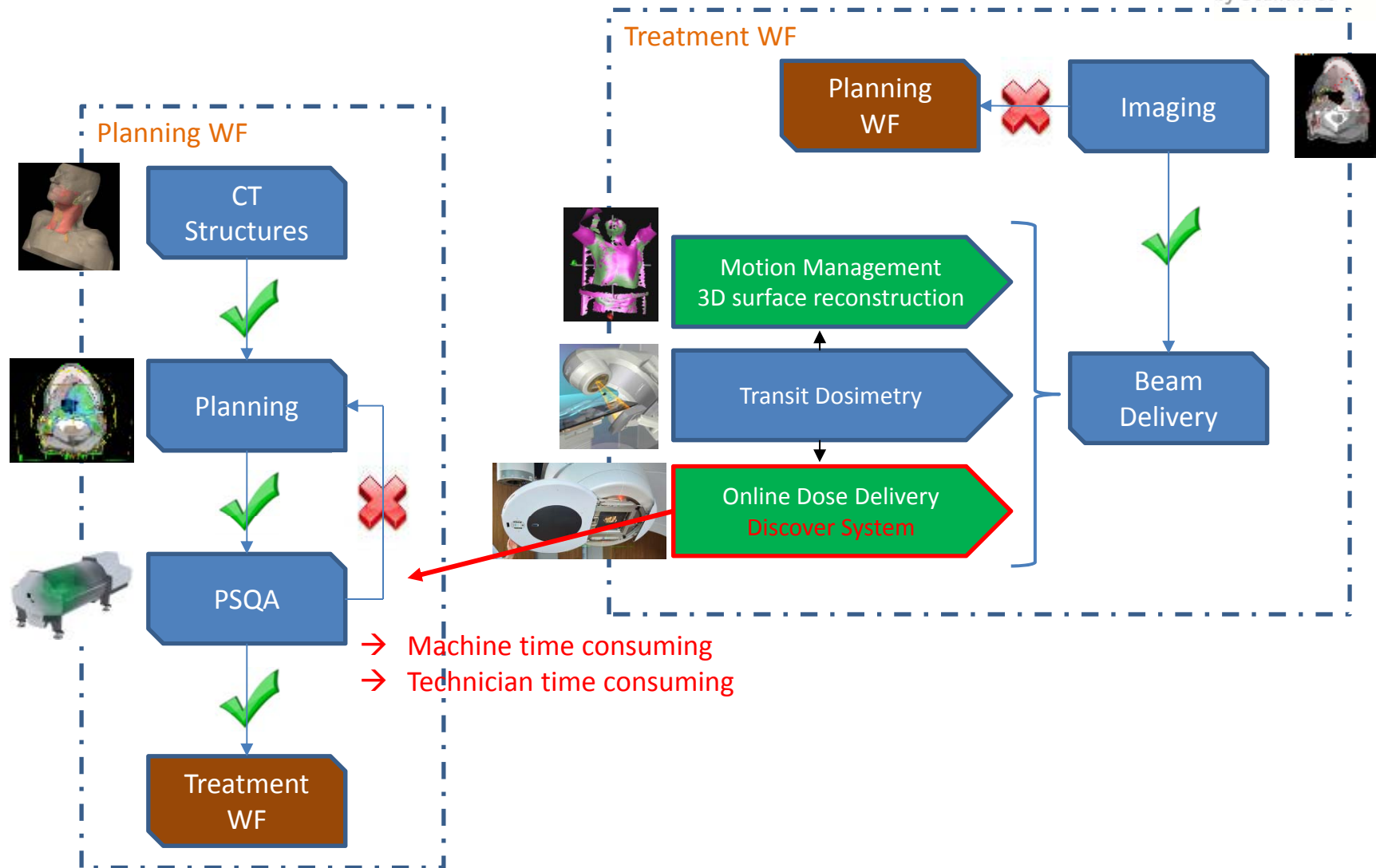
# Actual Workflow



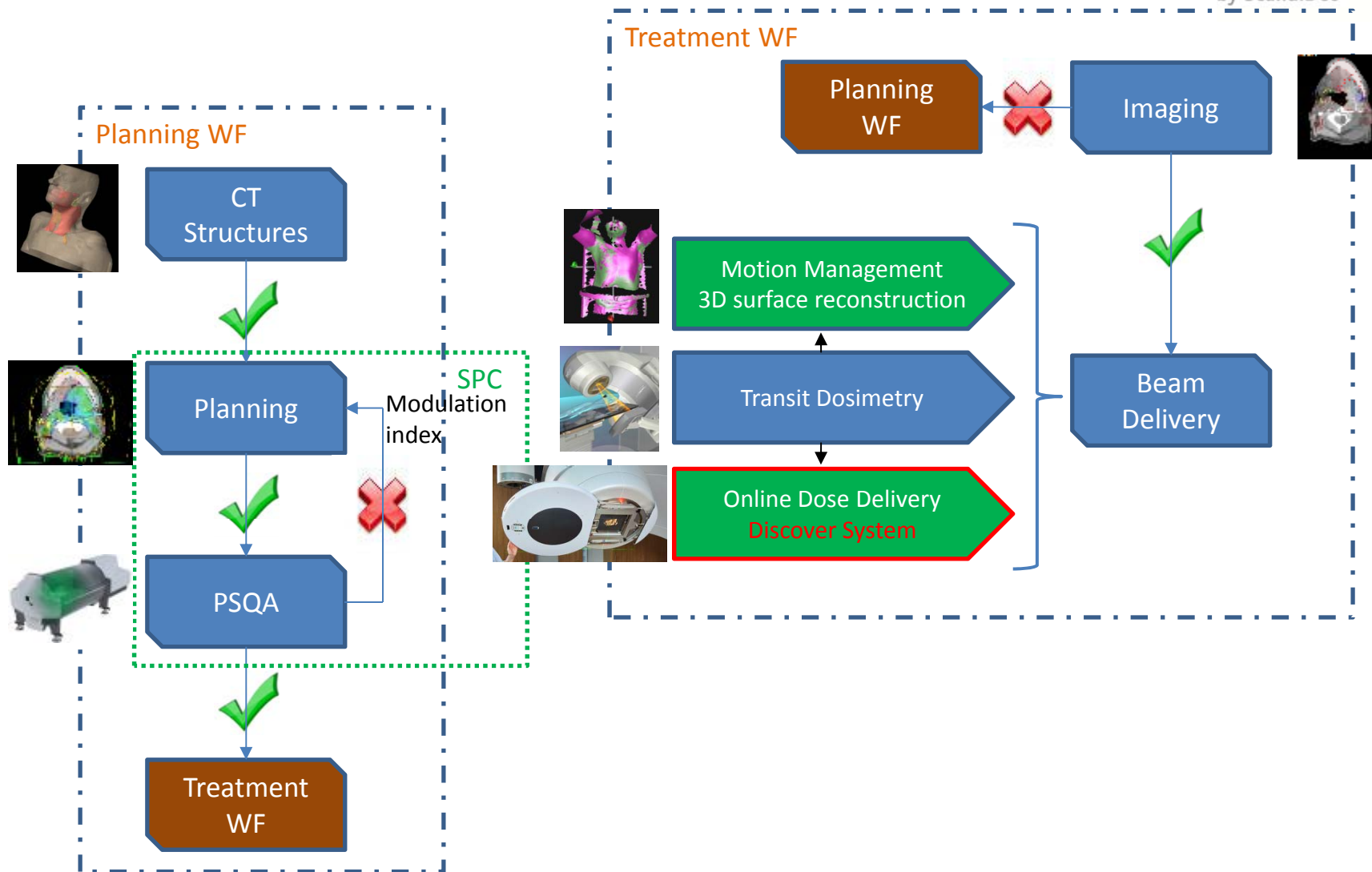
# Modified Workflow



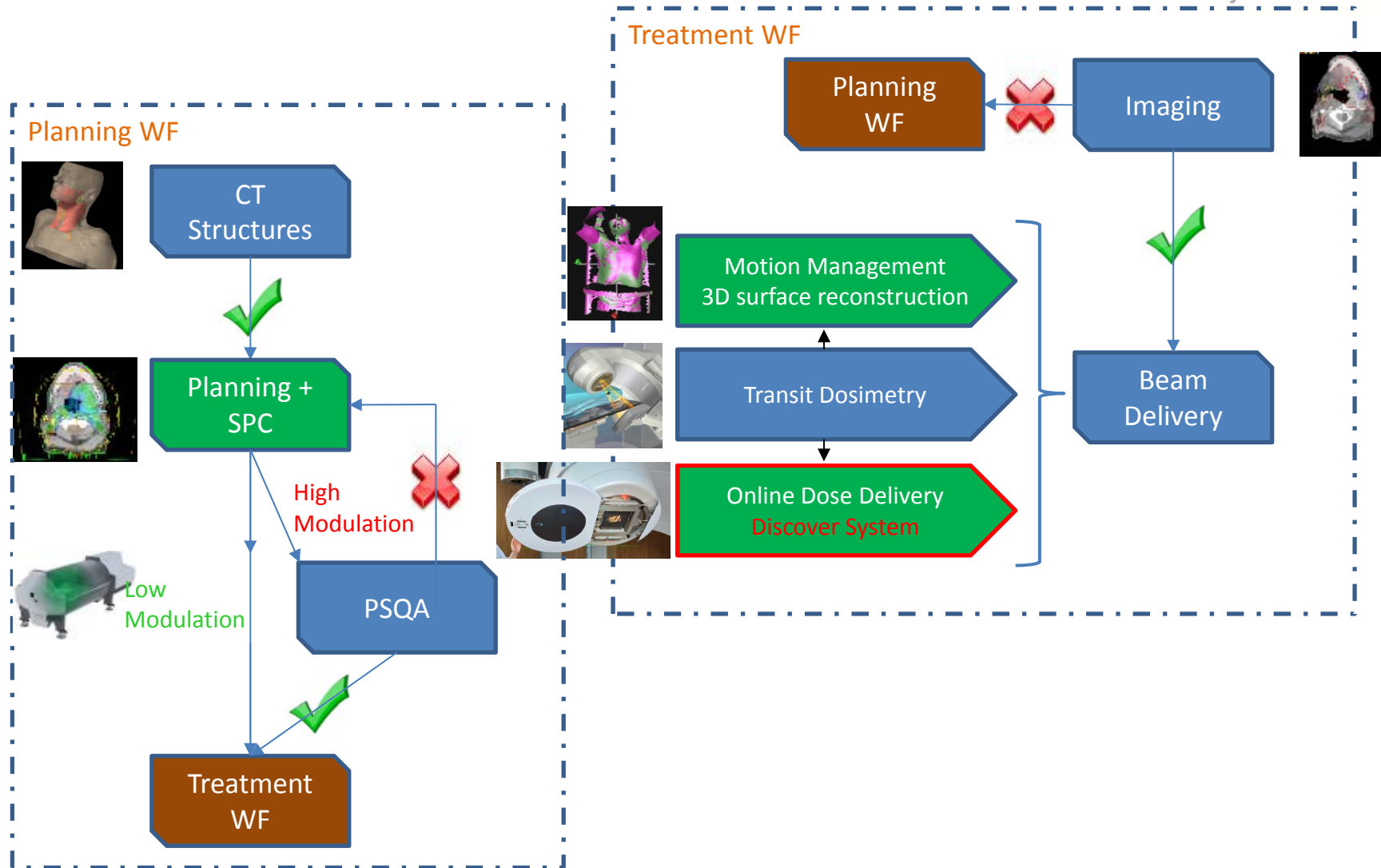
# Modified Workflow



# Modified Workflow



# Modified Workflow





# Conclusion

## ✓ Workflow improvements

- ✓ Increase the Specificity of Transit Dosimetry
  - ✓ Real In Vivo Dosimetry
- ✓ Optimize PSQA machine time consuming

## ➤ Workflow ressources

- Need of new technologies
- Need of a trained staff
- More physicists requested

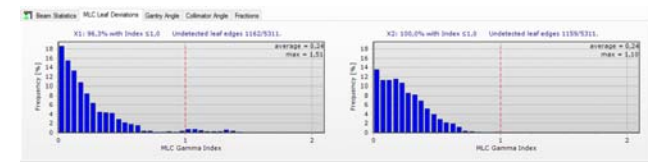
# More possibilities ?

- Discover system

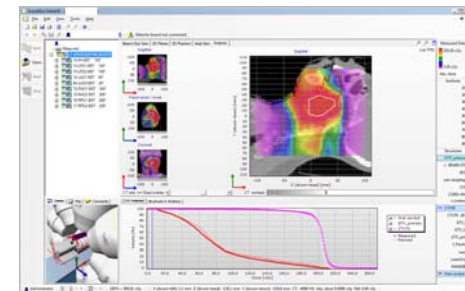


Can be used as an easy Machine QA tool

- MLC Positioning – IMRT / VMAT commissioning and QA
- Gantry / Collimator position
- Beam Homogeneity, symmetry
- Beam calibration value
- Morning beam check in 2 minutes vs 7 minutes



Fraction / Total dose delivered  
can be calculated



Machine QA results in SPC to anticipate machine drift

- preventive is better than curative



# THANKS FOR YOUR ATTENTION

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