

Flexible Interfacing System

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Introduction

The Problem

The Vision

The Solution

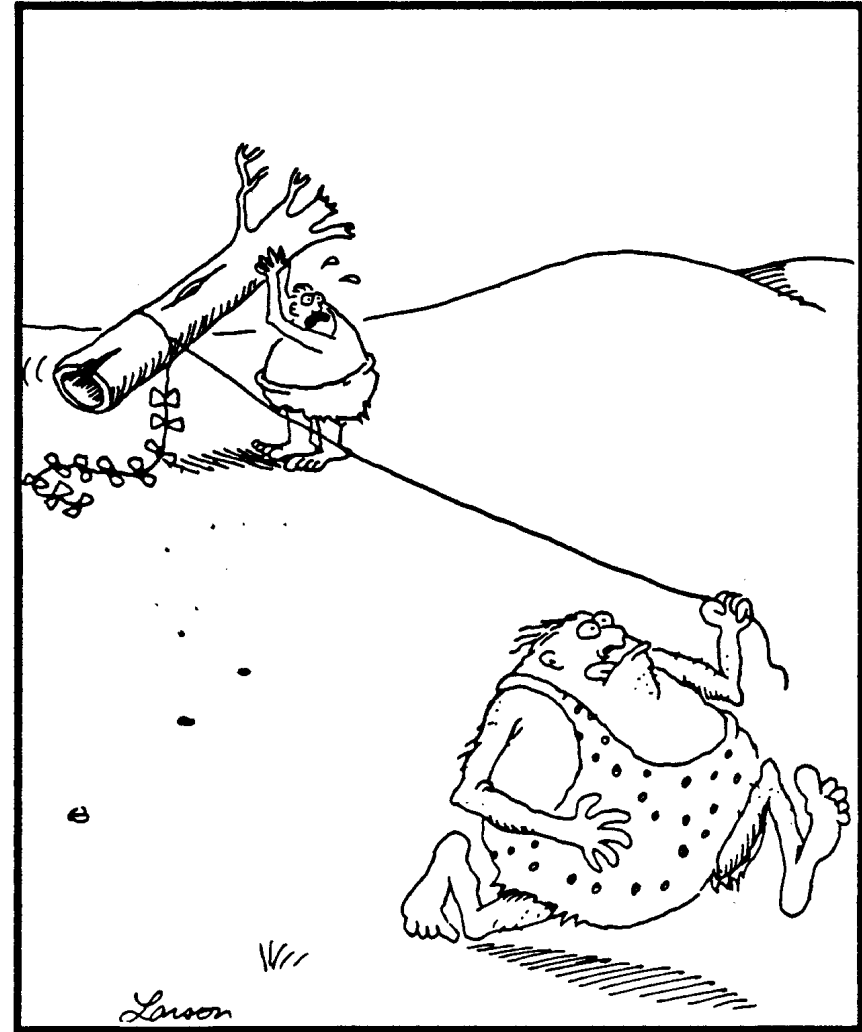
The Problem

There are no interfacing standards.

Prober platforms are different.

The effect on manufacturers & users

Test floor example



"Okay, Bob! Go! Go!"

There are no Interfacing Standards.

Pin Patterns

Probe Card Styles

Profiles

Docking Height

Prober Platforms are Different.

Mounting

Probing Height

Docking

Probe Card Changer & Non PCC

The Effects on Manufacturers and Users

Almost every interface is custom.

Long lead times

Higher costs

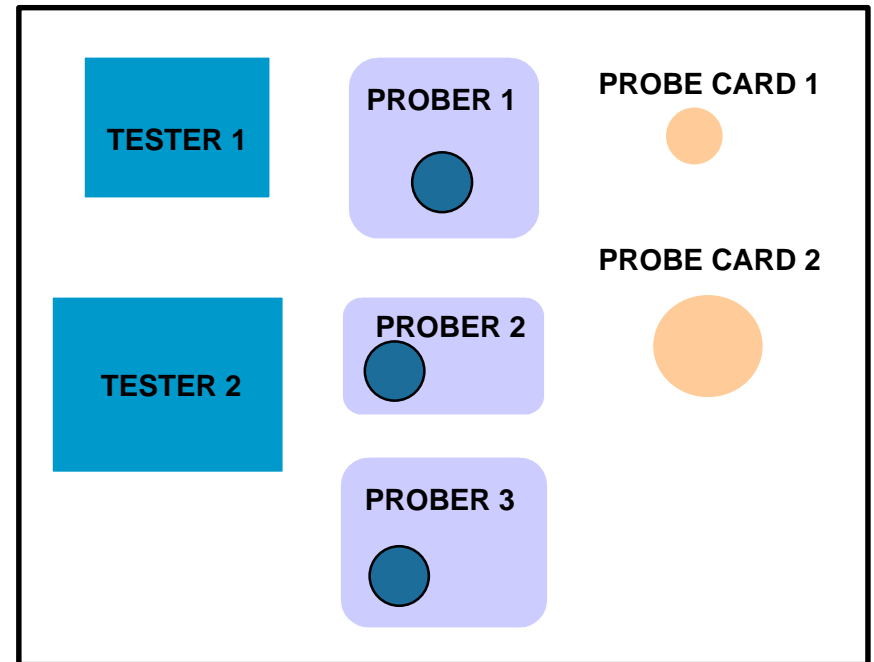
Difficult to support

Test Floor Example

→ Some possible combinations:

- T1/P1/P2/PC1 = 2
- T1/P1/PC2 = 1
- T2/P2/P3/PC2 = 2
- T2/P3/PC1 = 1

→ 6 interface designs required

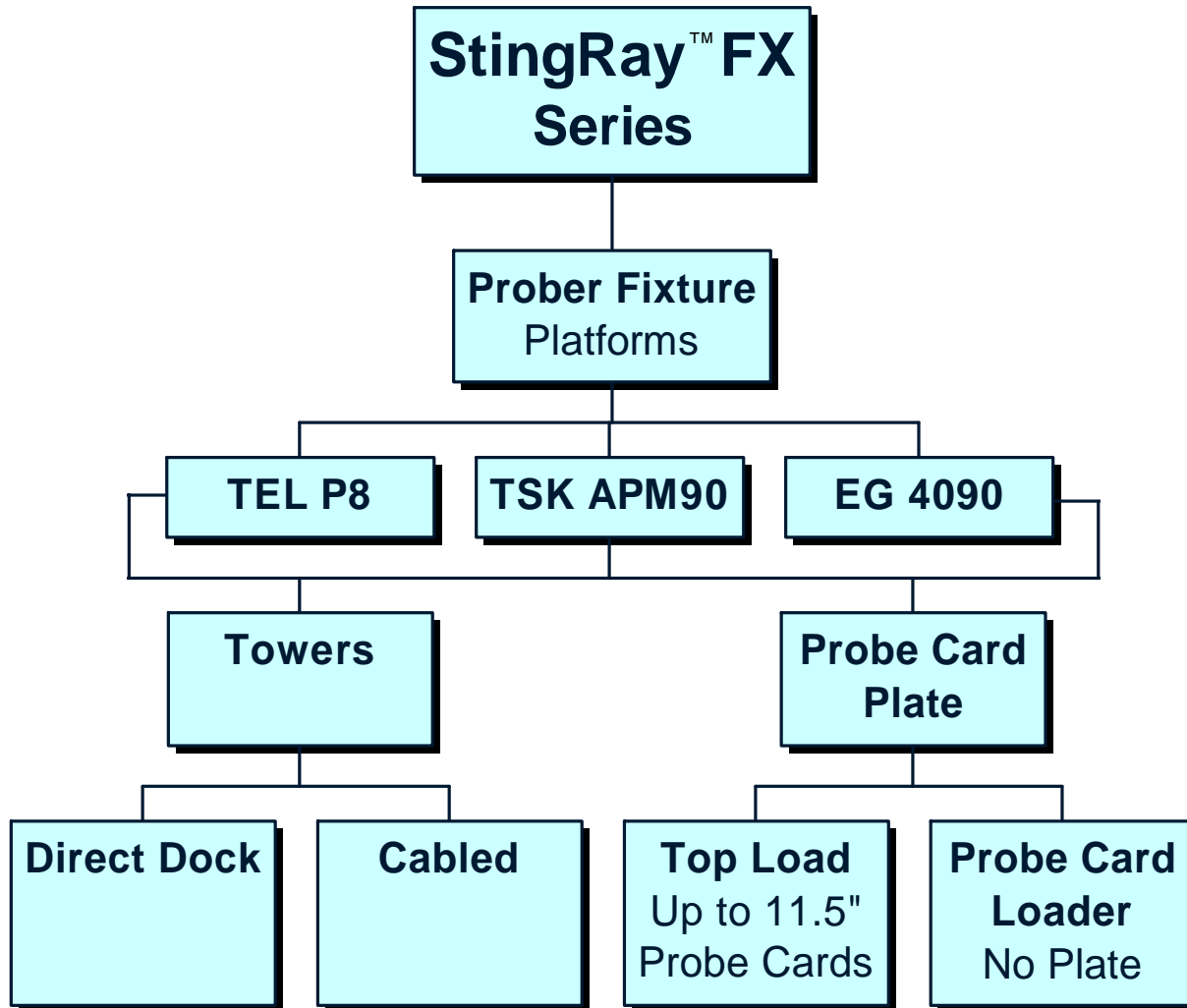


The Vision

Can a family of interfaces be made to:

- Remove prober platform variability?
- Standardize tower mounting & profile?
- Incorporate a changeable probe card plate?
- Make towers and probe card plates interchangeable?

The Family of Interfaces



The Solution

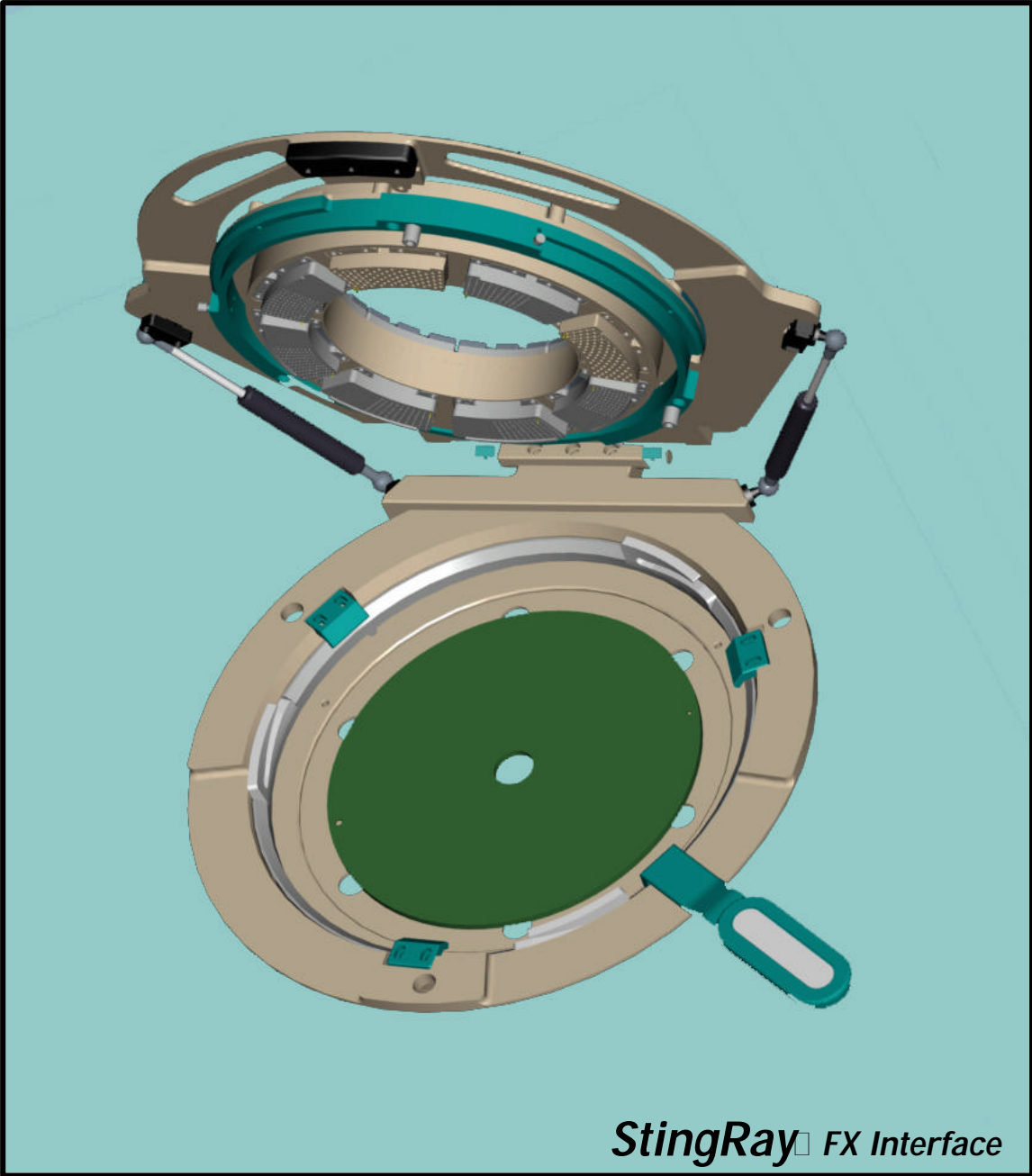
The StingRay™ FX Interface

- Capabilities
- Major assemblies
- Patent pending

How it works

Test floor possibilities

Implications for manufacturers & users



StingRay FX Interface

The Flexible Interfacing System

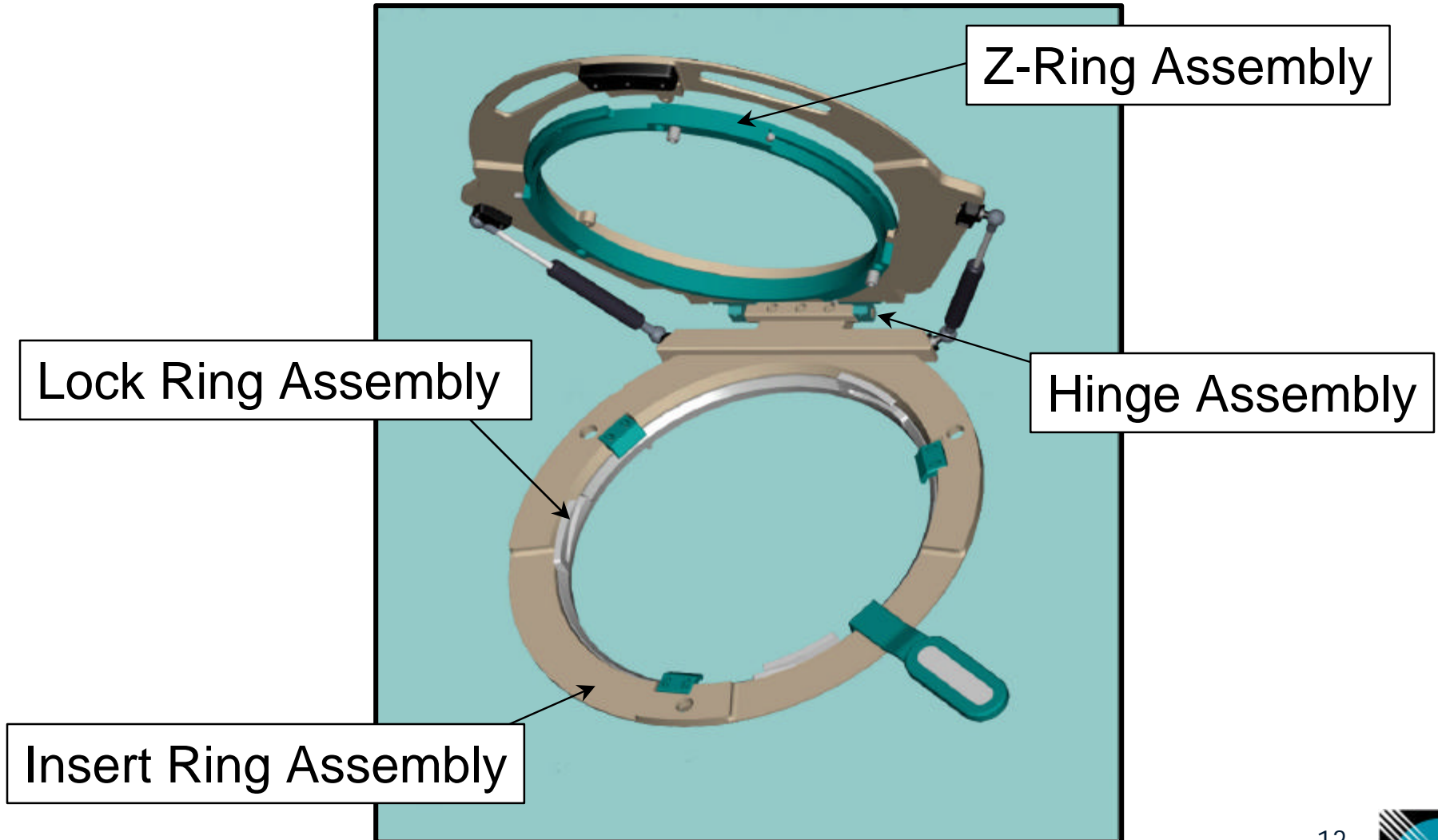
Interfacing Capabilities

- Probe card sizes from 4” to 11.5”
- Overhead & cabled towers
- Interchangeable probe card plates & towers

- Some current tester platforms:
 - Teradyne: A580, J971, J993, Catalyst
 - HP 83000 & Versatest: 512I/O, 1024I/O
 - Credence Duo: 512I/O 256I/O
 - Advantest: T5335, T5362, T5571, T3720

The Flexible Interfacing System

Major Assemblies



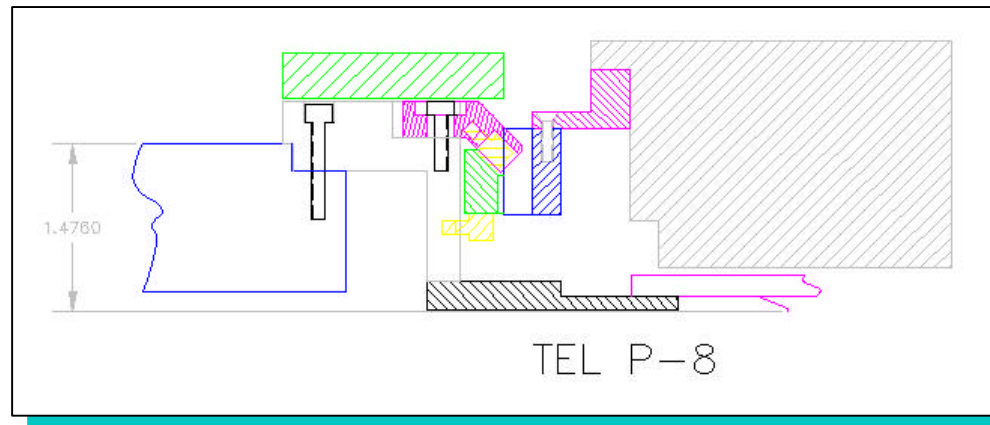
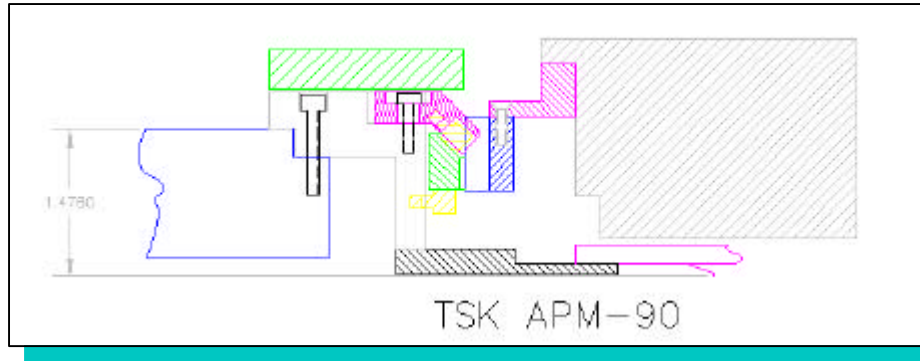
How It Works

Equalizing Probing Platforms

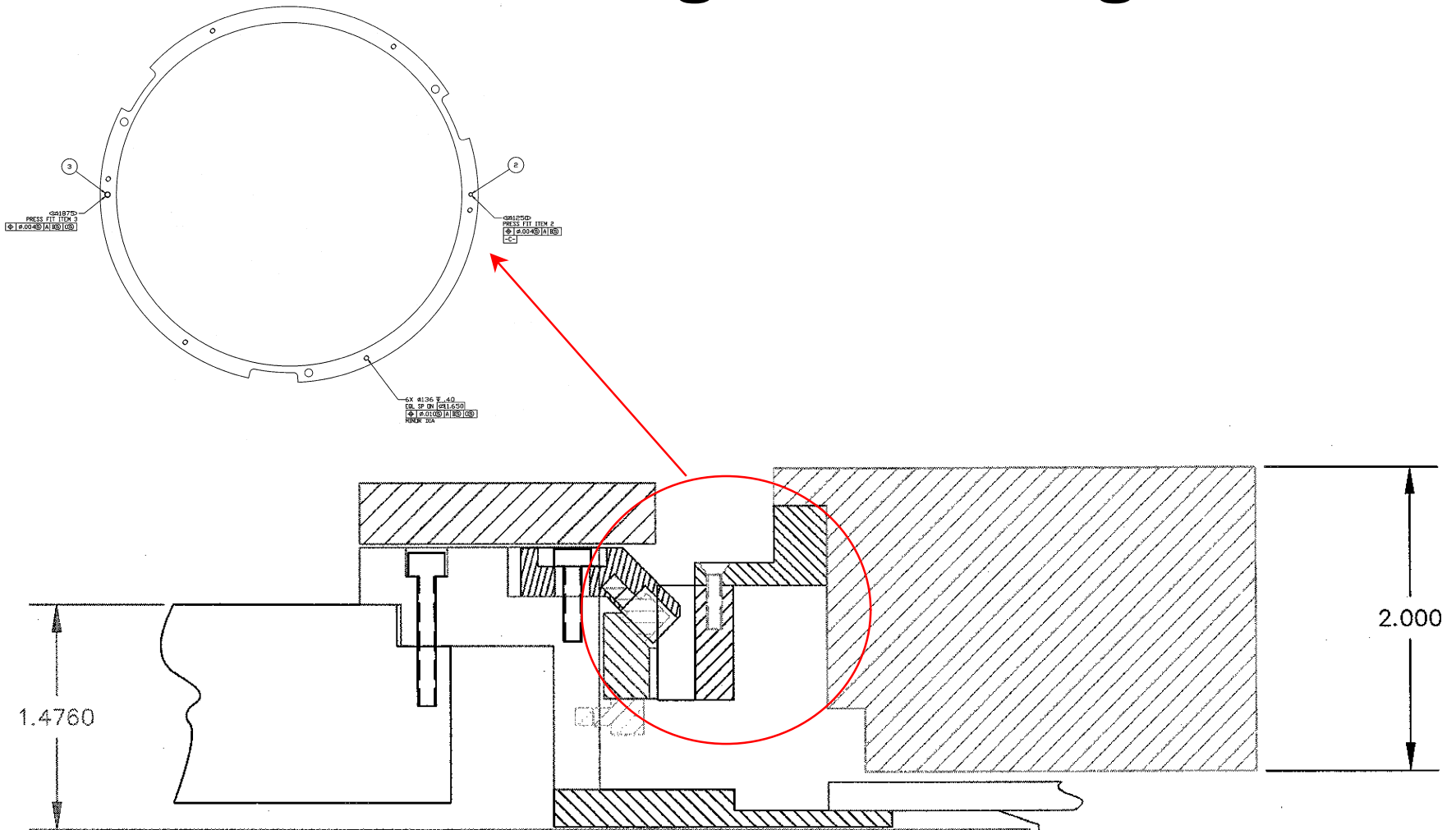
Standardizing Tower Mounting & Profile

Interchangeability of Towers & Probe Card Plates

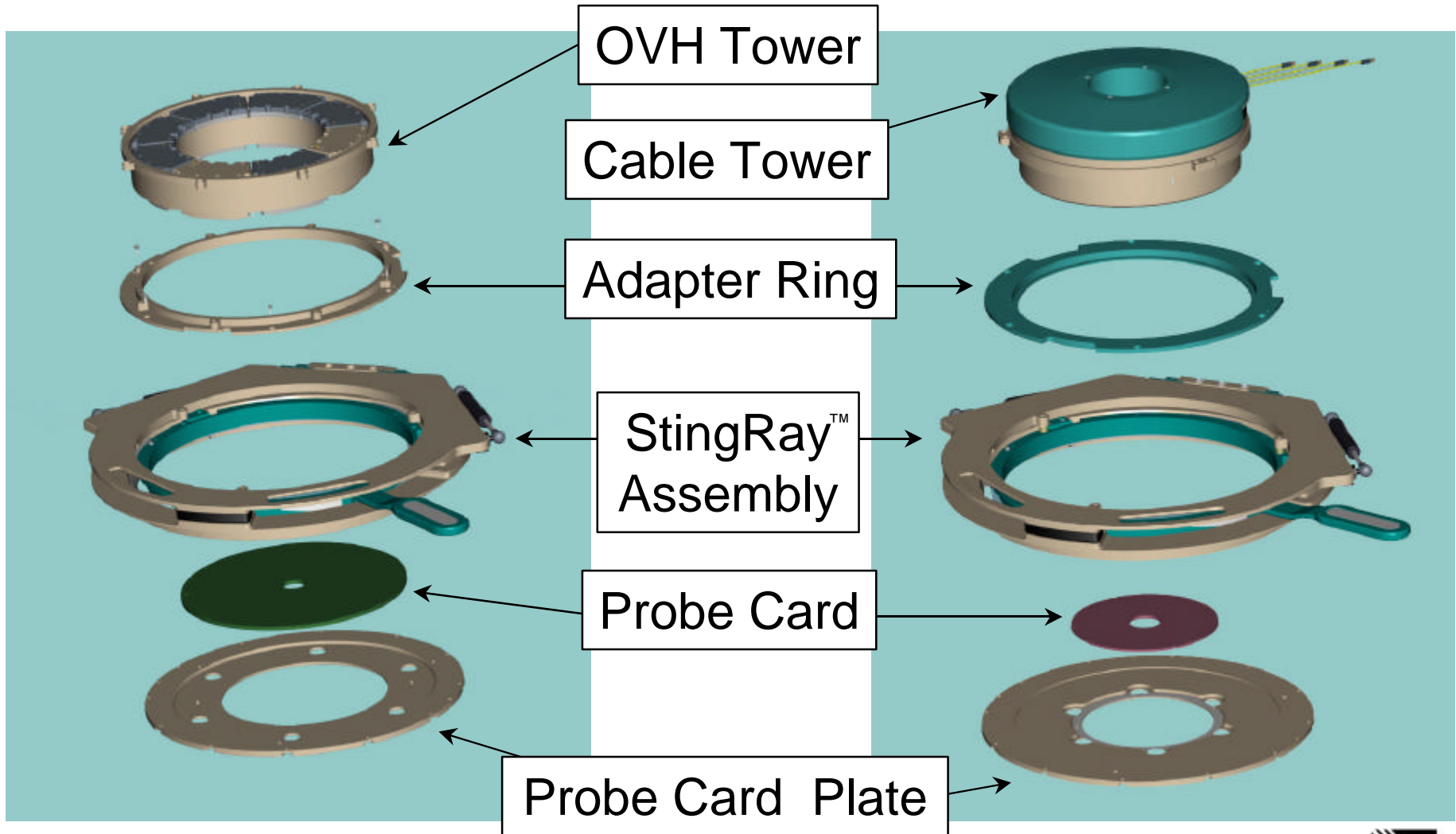
Equalizing Probing Platforms



Standardizing Tower Mounting & Profiling



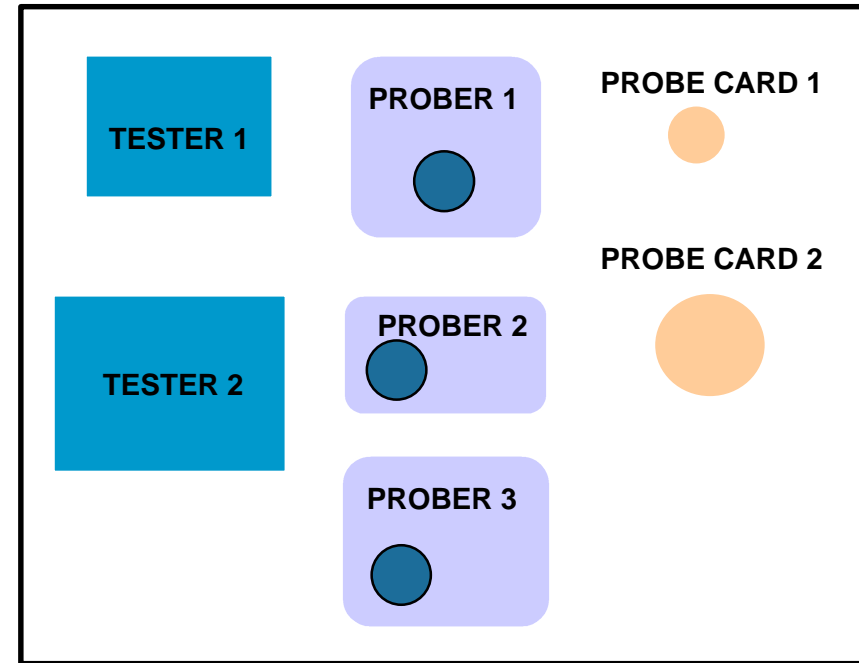
Interchangeability of Towers & Probe Card Plates



Test Floor Possibilities

- 1 Base Units for P1,P2,P3
 - With 3 insert rings

- 1 Tower & Plate for PC1
- 1 Tower & Plate for PC2
- Towers & Plates are interchangeable to P1/P2/P3



Implications for Manufacturers & Users

Reduced cost

Reduced lead times

Reduced inventory

Quick response to change

Summary

Interface standardization can make a big difference.

Future work with next generation prober platforms

- Larger openings
- Common mounting

A flexible interfacing system benefits end users & manufacturers.