Mastering Systems Integration; Integration Strategy

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Abstract

This presentations discusses the strategy for integration. The strategy is transformed into an approach to determine an integration sequence based on Key Performance Parameters and potential risks to achieve them.

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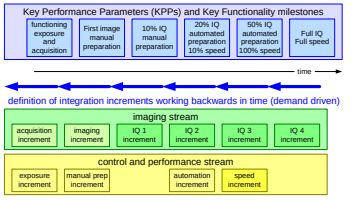
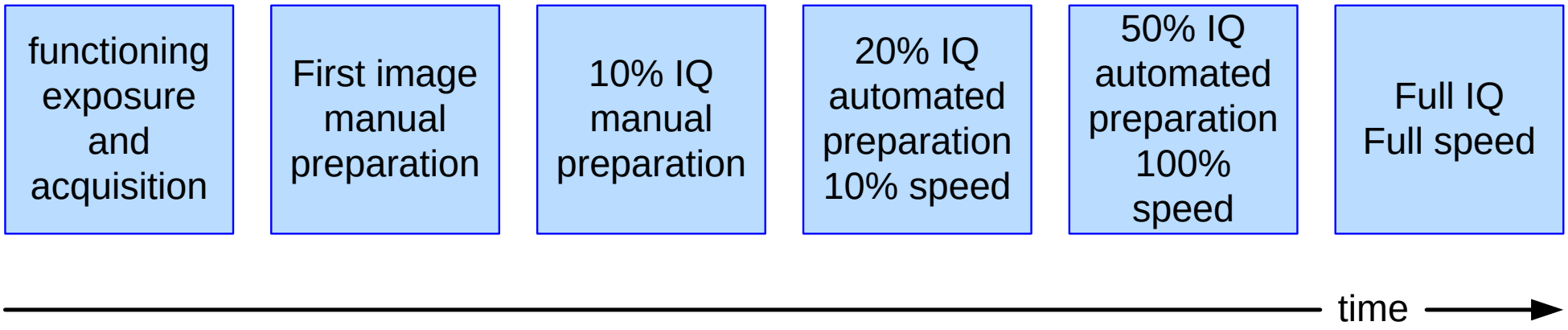


Integration Strategy

- Get Key Performance Parameters functioning ASAP
- Work on highest risks ASAP
- Use a pacing process (regular visible results)
  - with regular milestones
  - and increments in functionality and performance
- Merge constraints from test configurations, suppliers, resources, etc.

Pacing Milestones

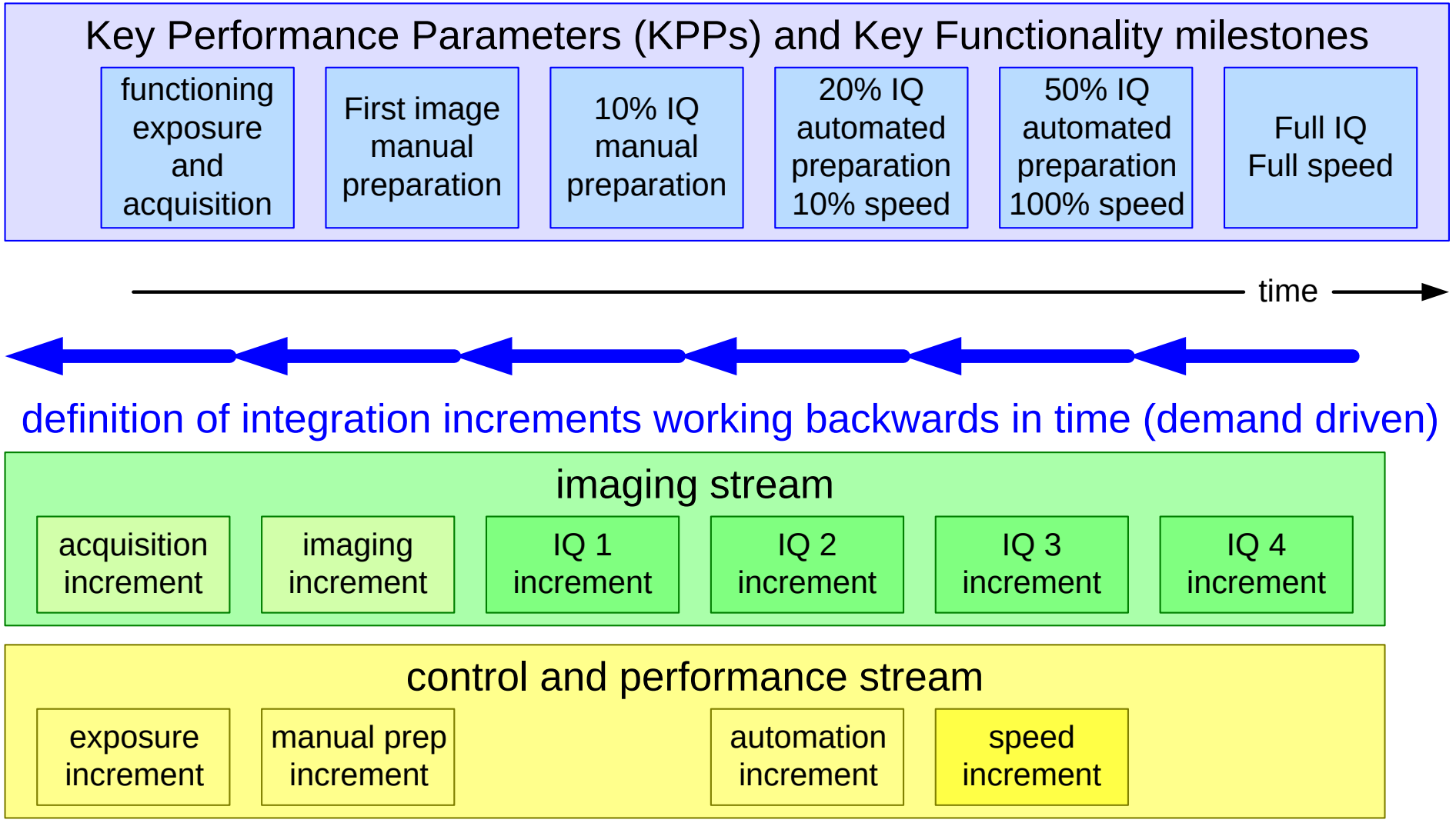


pacing:

maximum 6 month between milestones

depending on technology and domain

Defining an Integration Sequence in Increments



Stepwise Integration Approach

1	Determine most critical system performance parameters.
2	Identify subsystems and functions involved in these parameters.
3	Work towards integration configurations along these chains of subsystems and functions.
4	Show system performance parameter as early as possible; start with showing "typical" system performance.
5	Show "worst-case" and "boundary" system performance.
6	Rework manual integration tests in steps into automated regression tests.
7	Monitor regression results with human-driven analysis.
8	Integrate the chains: show system performance of different parameters simultaneously on the same system.