



Planning the Work – How to Create a Manageable Enterprise GIS Project Plan

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Technical Workshop

Topics

- **Why do we plan**
- **How do we plan**
- **Planning for project completion**
- **How to use the plan**

Why Do We Plan?

Because things **change...**



Examples...

Scope	COTS	Customization
Budget	\$100,000	\$90,000
Timeline	June 1, 2012	March 31, 2012
Software	ArcGIS 9	ArcGIS 10
Resource	Tech Lead = Joe	Tech Lead = Liz

Why Do We Plan?

Because our **expectations** of the project may be different...

What you think



What the client thinks

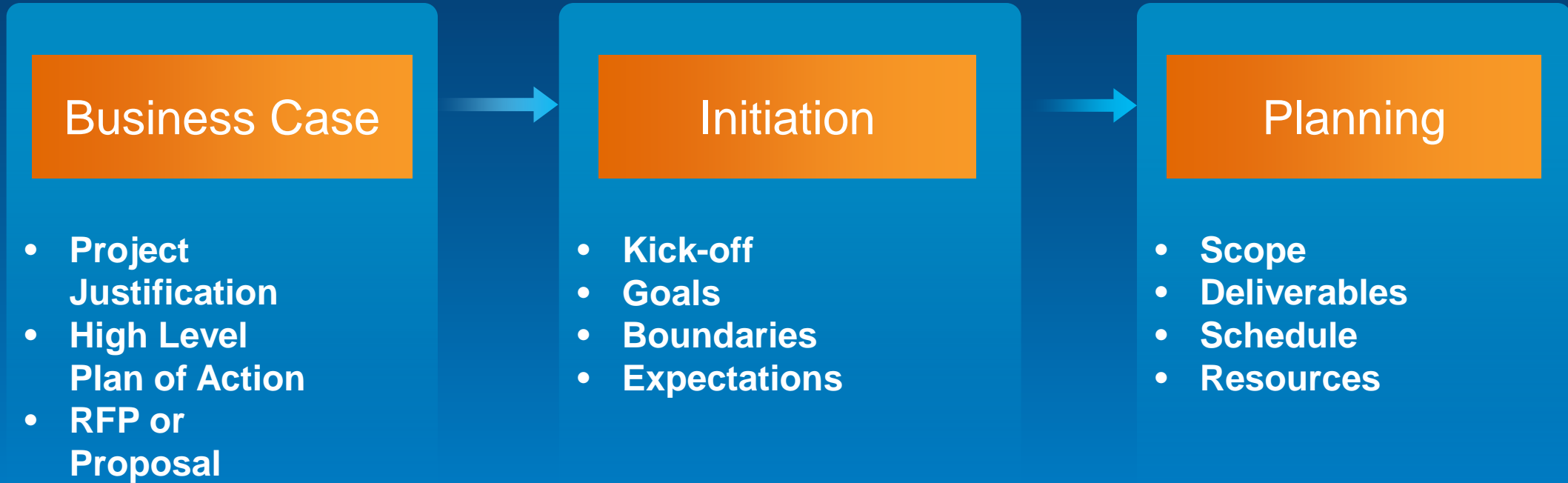




Planning Depends on Communication

Timely, clear, complete

Think of Planning as a 3-Step Process



Vision Setting Develop a Business Case



Think of how ArcGIS will Support your Enterprise

Knowledge
Workers



Executive
Access



Public
Engagement



Work
Anywhere



Enterprise
Integration



Professional
GIS



ArcGIS

**Making Mapping and GIS
Available Across Your Organization**

Transforming the Role of GIS

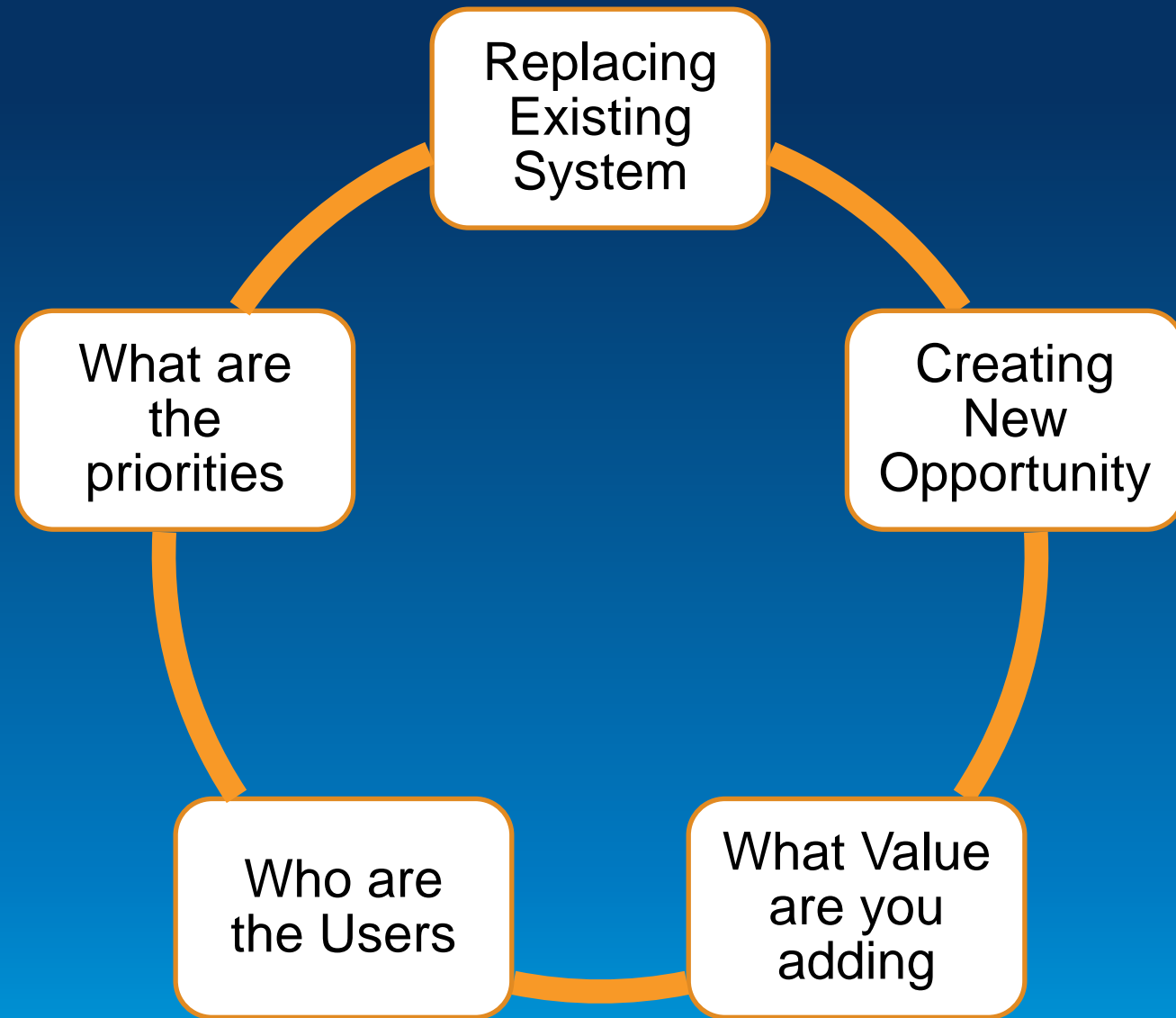
WHO are the USERS...

....and what are their
business needs



Its all about business objectives

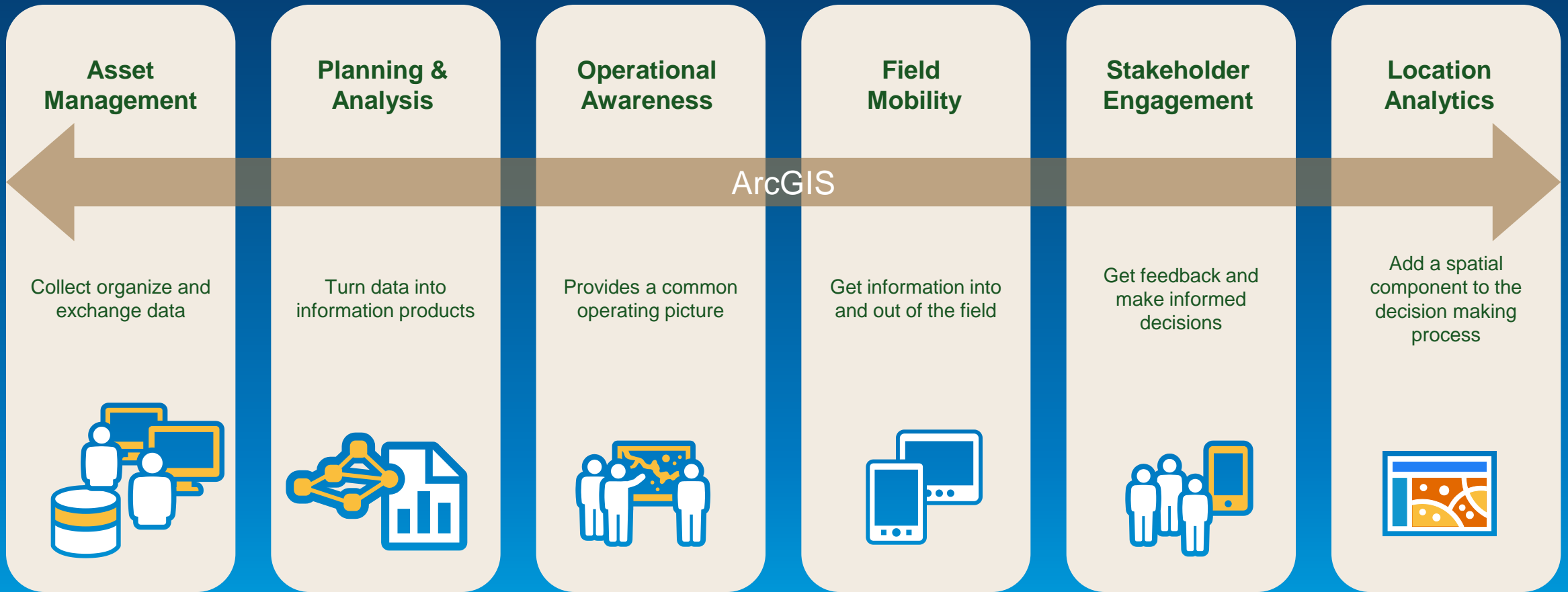
Providing value through GIS
technology



Focus on the Business Workflow

Pick top 5 critical workflows

Identify Solutions with GIS Patterns in Mind



Develop a Charter

- **High-Level Plan**
 - **Projects**
 - **Schedule**
 - **Cost**
 - **Governance**
- **Implementation Priorities**
 - **Practical**
 - **Meet broadest needs**
 - **Yield early results**
 - **Responsive to executive priorities**



Draft Project Plan
§Program Overview
§Purpose, Business Need
§Objectives, Approach
§Success Criteria
§Scope Overview, Deliverables, Milestones
§Budget
§Assumptions, Constraints, Risks
§Resources/Roles
§Project Team
§Approvals

Define an Implementation Strategy

- **Who is going to do the work**
 - **Internal staff**
 - **Contractors**
- **Get a scope and RFP on the streets**
 - **Timeframe**
 - **Administration**
 - **How to communicate requirements**
 - **Contractual**
 - **Evaluation**
- **Project Approved – ready for next steps.....**

Initiation



You've Got Project Approval – What's Next...

- Use Initiation to set the *Real* project baseline
- Consider effects of contract negotiations
 - Lag times between strategy and project approval
 - Scope may have changed
 - Technology solution may be out of date
 - Assumptions may no longer hold
- Regroup with key stake holders
 - Review the key drivers
 - Have some of the players changed?

Initiating the Project the Right Way

- Re-affirm commitments, project understanding
- Continue to build relationships
- Document objectives, success criteria
- Set expectations and boundaries
 - Acceptance, change management, organization, responsibilities
- Set the stage for *detailed* project planning

Which of these help to initiate the project the right way?

Avoids setting expectations and boundaries

Re-affirming commitments and project understanding

Document objectives, success criteria

Keep distance between everyone involved in project

Set the stage for detailed project planning

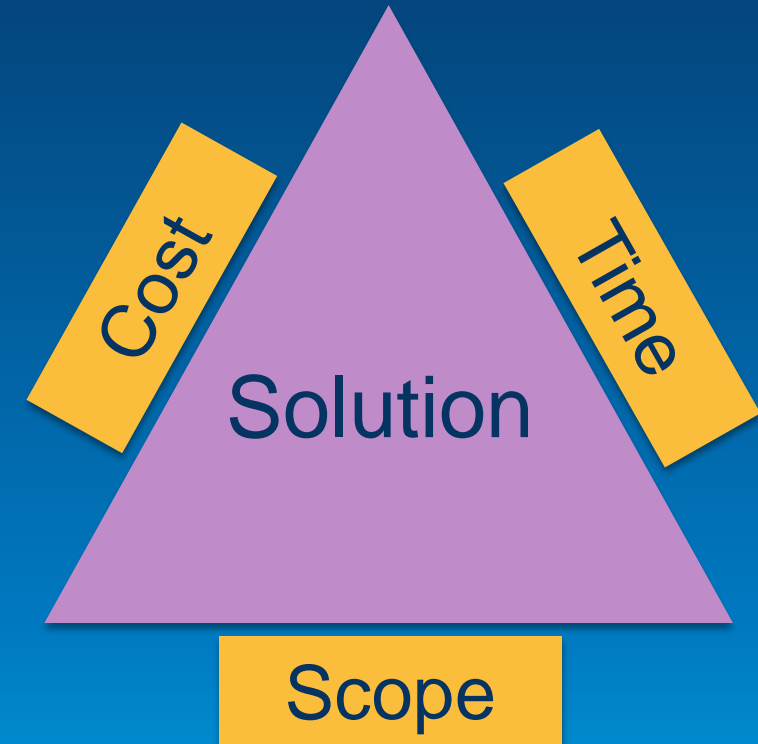


Project Planning



Why Develop a Detailed Plan?

- **Defines the Project Execution Roadmap**
 - Deliverables
 - Timing, sequence of events
 - Resources
 - Communications
- **Defines when you are done**
 - Quality expectations
 - Acceptance Criteria

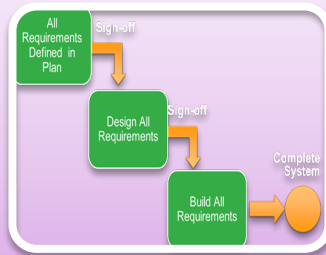


Build the Right Plan for the Project

- **Adapt management style to the project**
 - What phasing strategy?
 - What project lifecycle?
 - How to organize your team?
 - Are partners involved?
- **Decide on relevant communications**
 - Progress, customer engagement, acceptance, change
- **Organize your plan around a detailed schedule**

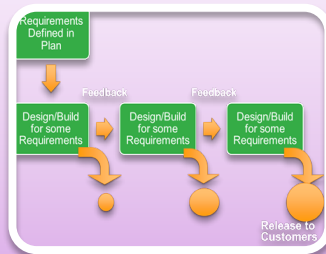
Project Life Cycle Options

Consider project size, organizational capacity, the application(s).



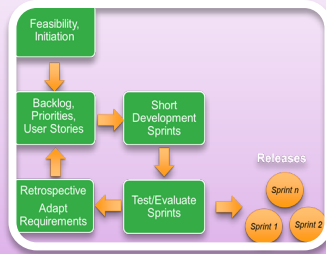
Waterfall

- Short duration
- Clear requirements
- Single application
- Limited customer resources
- Customer expects single deployment



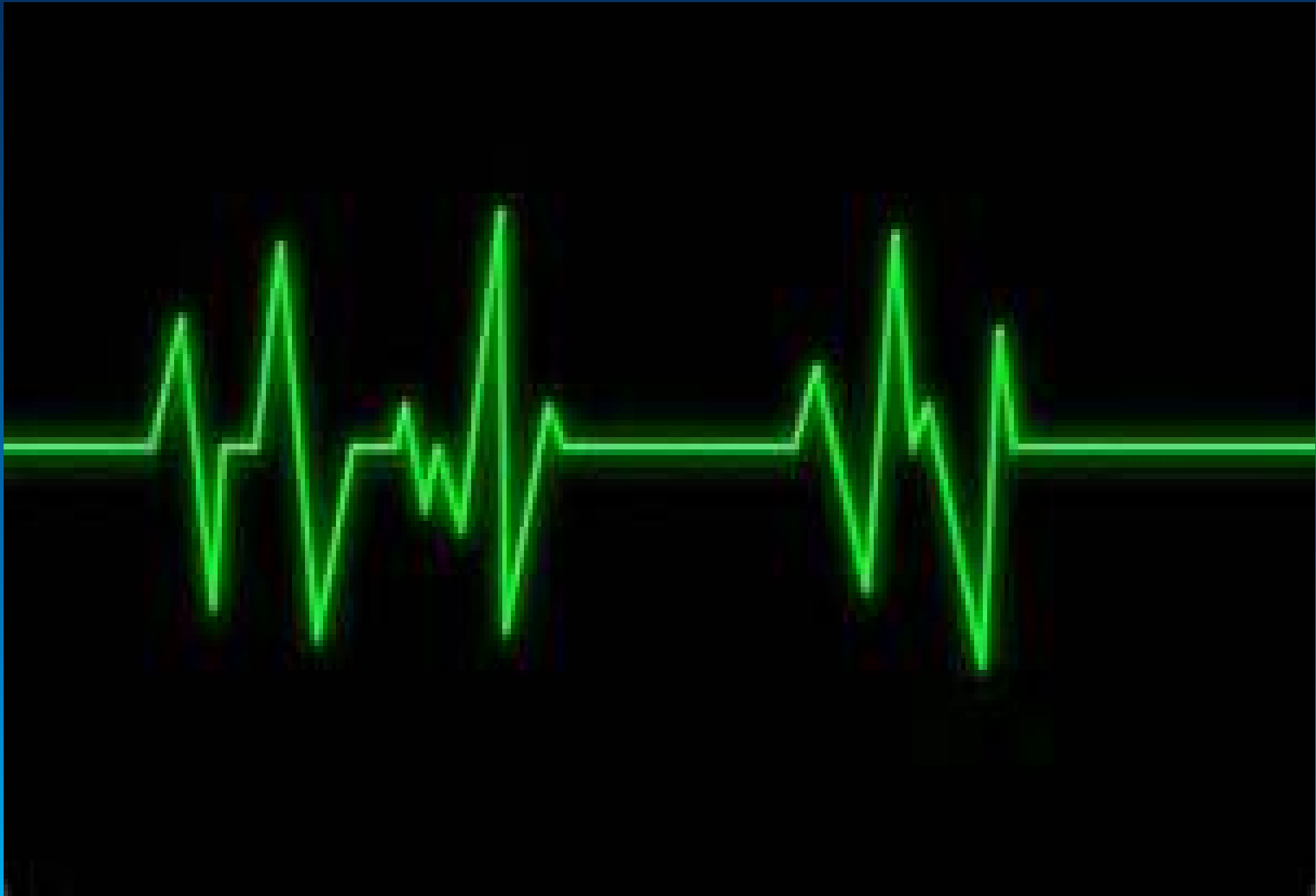
Iterative

- Long duration, multi-phase
- Discrete functions or applications
- Workflows and GUI tuning
- Customer expects prototypes
- Customer can support multiple releases



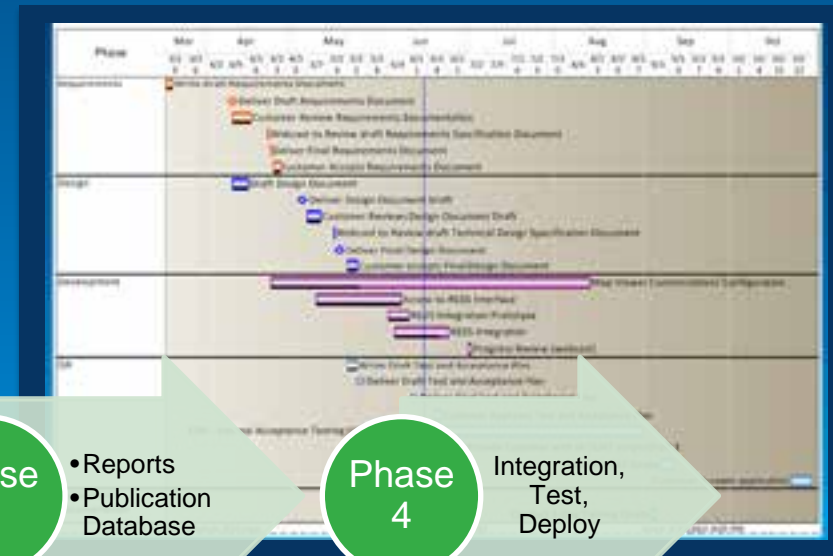
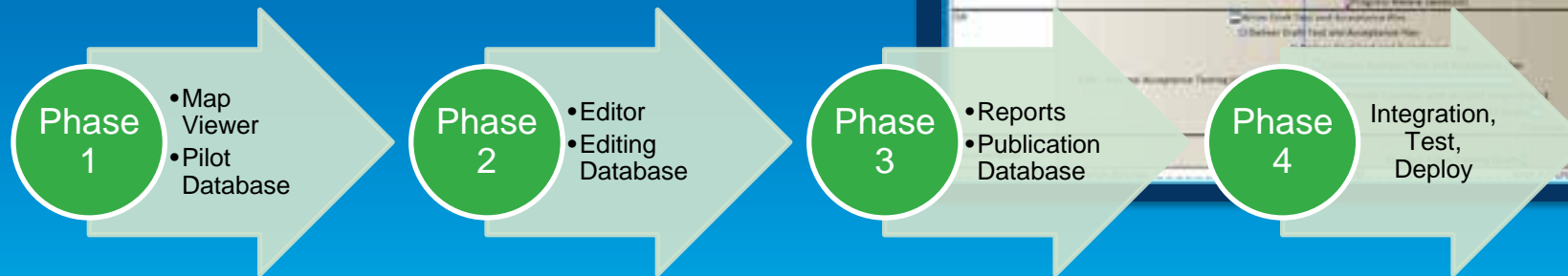
Agile/Scrum

- Short or long duration
- Experienced, disciplined team
- Customer expects to collaborate
- Revisions to requirements are acceptable
- Application can be organized into short duration sprints

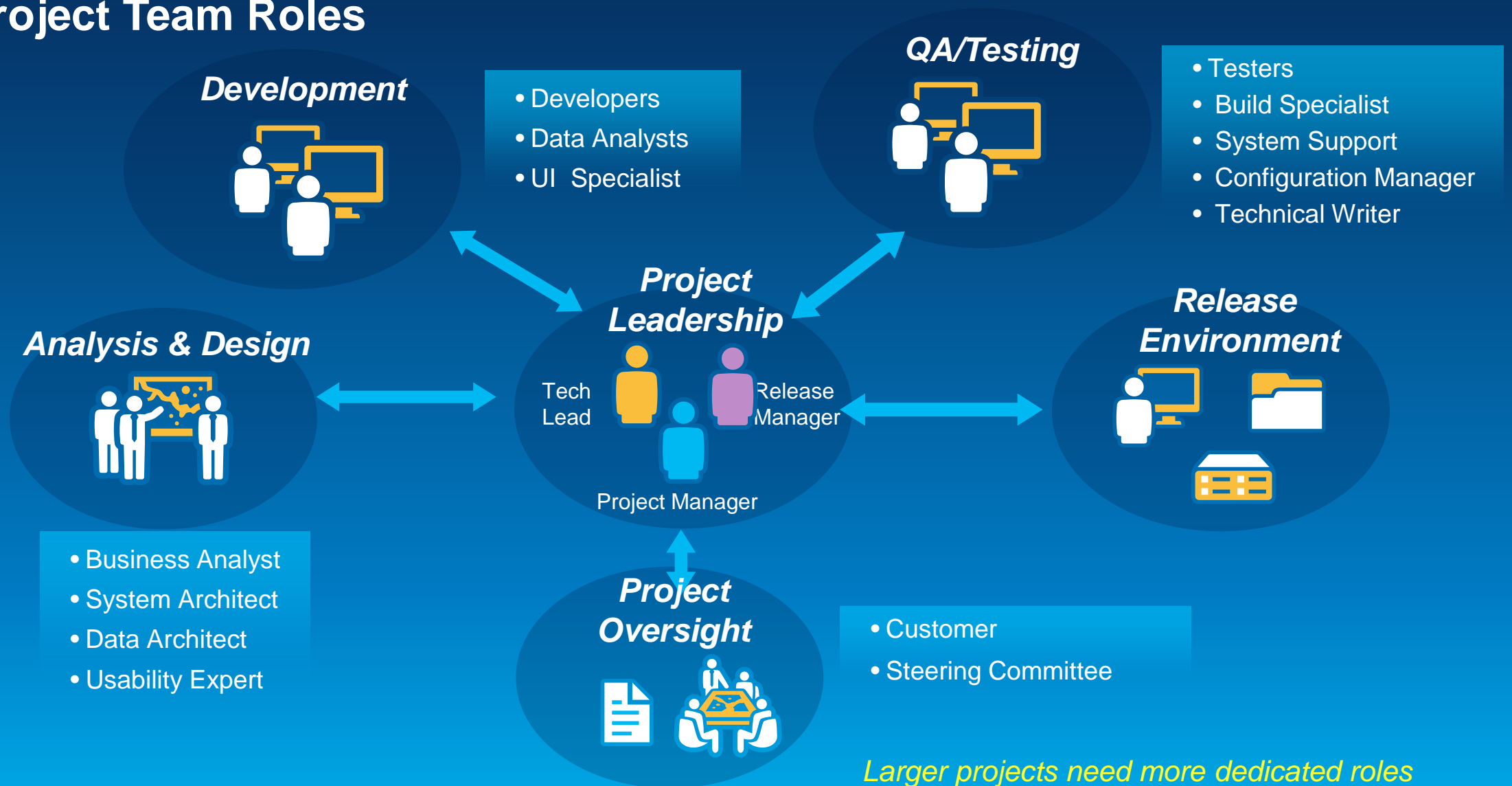


Multiple Phases is Best on Large Projects

- Breaks the projects into workable pieces
- Use “scope boxes” or “time boxes”
 - Define requirements and workflows in each
 - Complete workflows in each spiral
 - Show “Tangible” Progress
- Communicate overall plan
 - Use tools like MS project



Project Team Roles



Teaming Partners Involve More Logistics

- How do incorporate them in the “business rhythm”
- Synchronizing schedules
- Review of deliverables



How to Plan for Effective Communications

- **Plan for customer involvement at ALL stages**
 - Business Rhythm
 - Remain in SELL mode
 - Consider sponsor, stakeholders
- **Plan review milestones**
 - Visibility, tangible progress
- **Match style, content to audience**

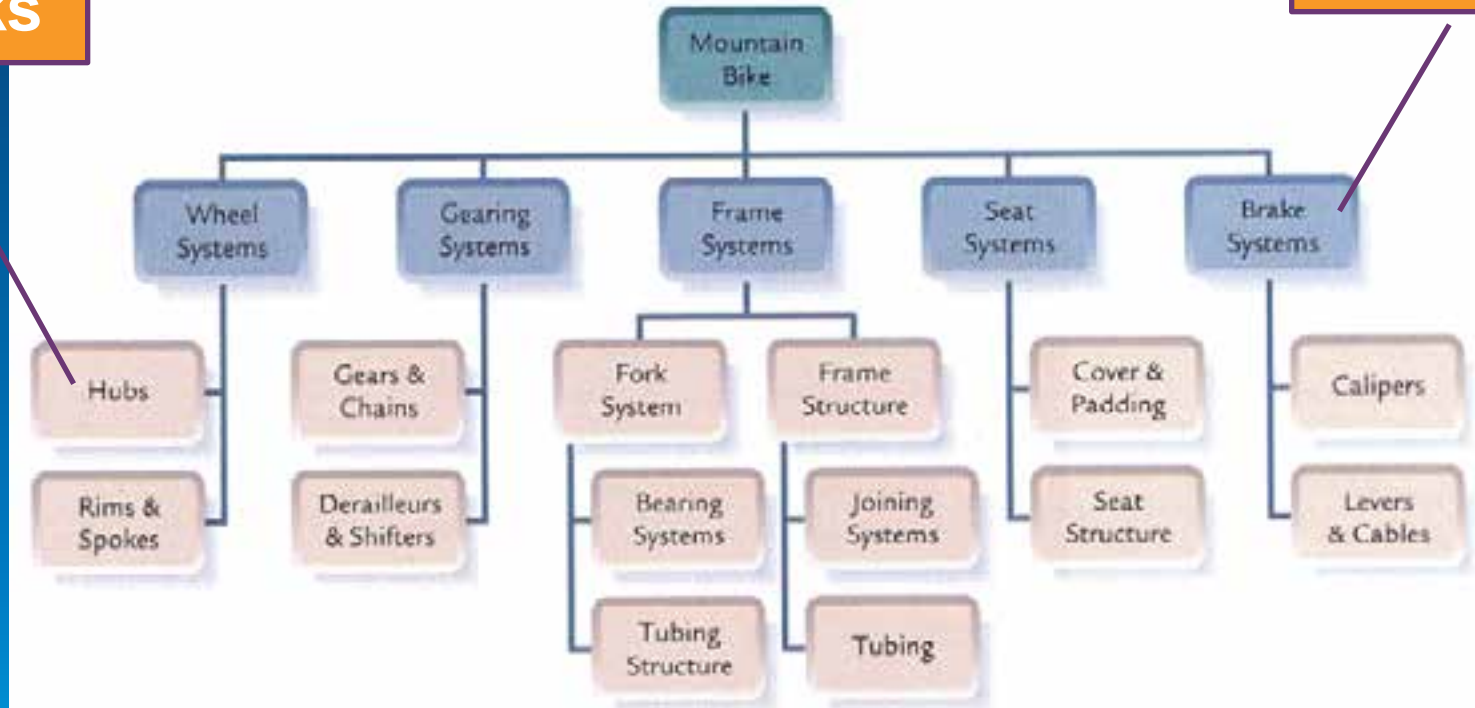


How Do We Plan...Use a Work Breakdown Structure (WBS)

How to Build a Bicycle

Subtasks

Tasks



Accuracy
of
charging

Too few

Ease of
reporting



Ease of
charging

Too many

Complexity

A Good WBS....

Needs to find a balance



Which is the best example of a *balanced* WBS?

Level	WBS	Description
1	A0100	Design
1	A0200	Develop
1	A0300	Test
1	A0400	Deploy

1

Level	WBS	Description
1	A0100	Design
2	A0110	Kickoff Meeting
2	A0120	Design Document
1	A0200	Develop
2	A0210	Prototype
2	A0220	Custom Development
1	A0300	Test
2	A0310	Internal Acceptance Test
2	A0320	User Acceptance Test
1	A0400	Deploy
2	A0410	Install
2	A0420	Warranty

2

Level	WBS	Description
1	A0100	Design
2	A0110	Kickoff Meeting
3	A0111	Kickoff Meeting Notes
2	A0120	Design Document
3	A0121	Design Document Draft
3	A0122	Design Document Review
3	A0123	Design Document Final
3	A0124	Design Document Final Review
1	A0200	Develop
2	A0210	Prototype
3	A0211	Prototype Design
3	A0212	Prototype Development
3	A0213	Prototype Review
2	A0220	Custom Development
3	A0221	Develop User Interface
3	A0222	Develop Application
3	A0223	Review Application
1	A0300	Test
2	A0310	Internal Acceptance Test
3	A0311	Develop Test Scripts
3	A0312	Review Test Scripts
3	A0313	Internal Acceptance Test
2	A0320	User Acceptance Test
3	A0321	Develop Test Scripts
3	A0322	Review Test Scripts
3	A0323	User Acceptance Test
1	A0400	Deploy
2	A0410	Install
3	A0411	Travel to Client Site
3	A0412	Review Client Environment
3	A0413	Install
2	A0420	Warranty

3



Which is the best example of a *balanced* WBS?

- It depends...
 - Size of project (hours)
 - Length of project (time)
 - Contract requirements

Level	WBS	Description
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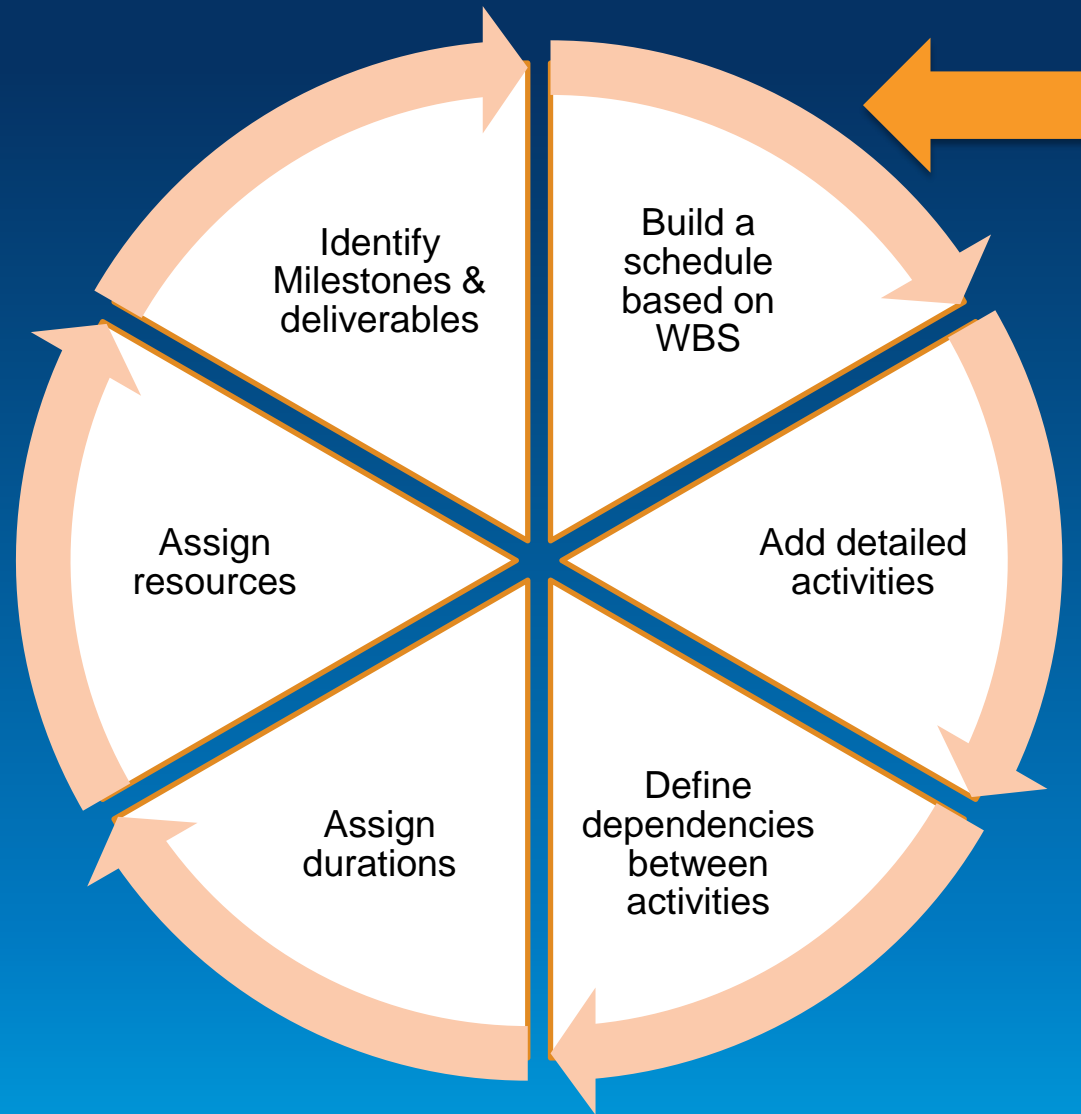
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3



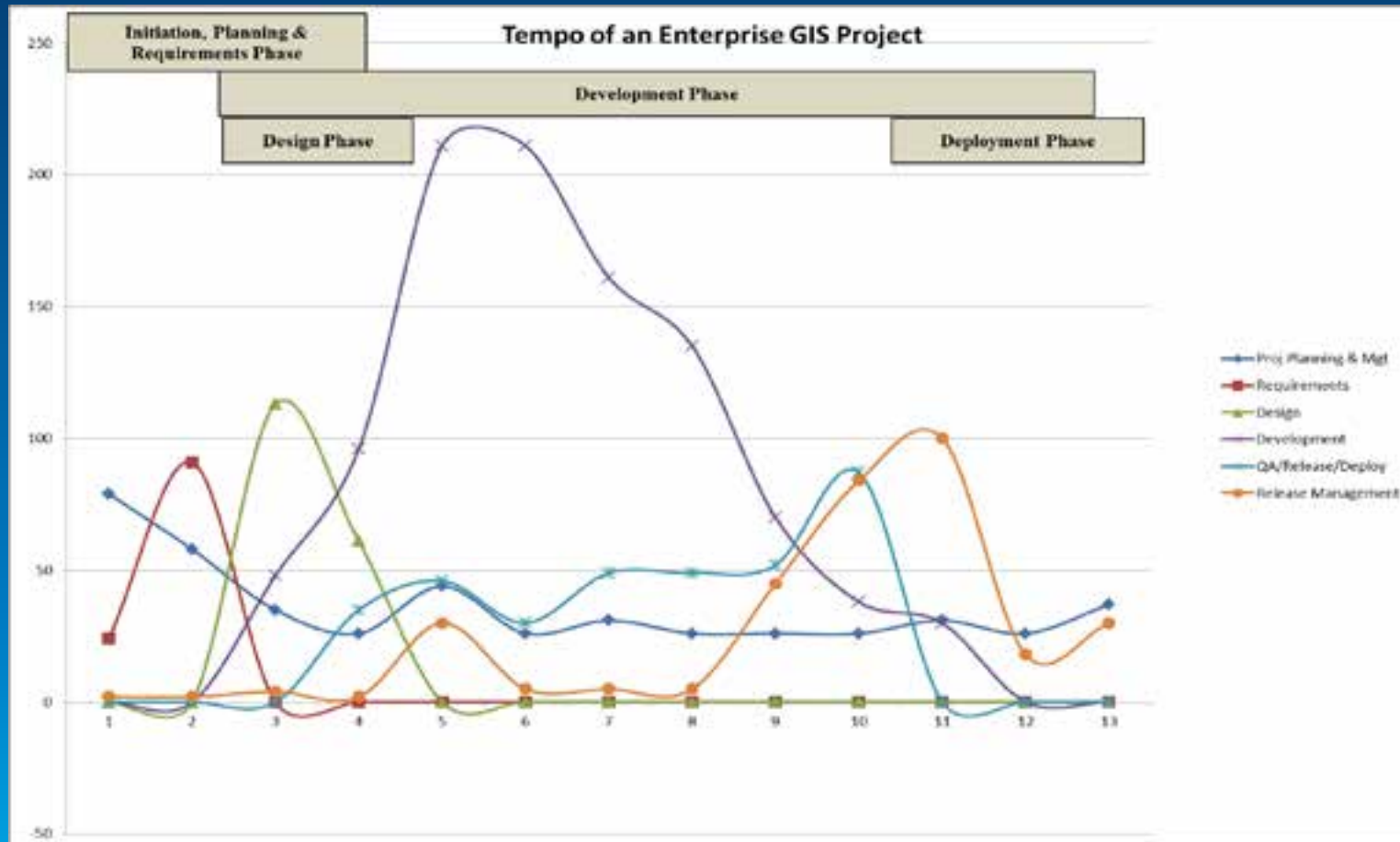
Start
Here

What are the steps you go through

Start with a WBS....

Estimating Work

Validate estimates by considering relative level of effort

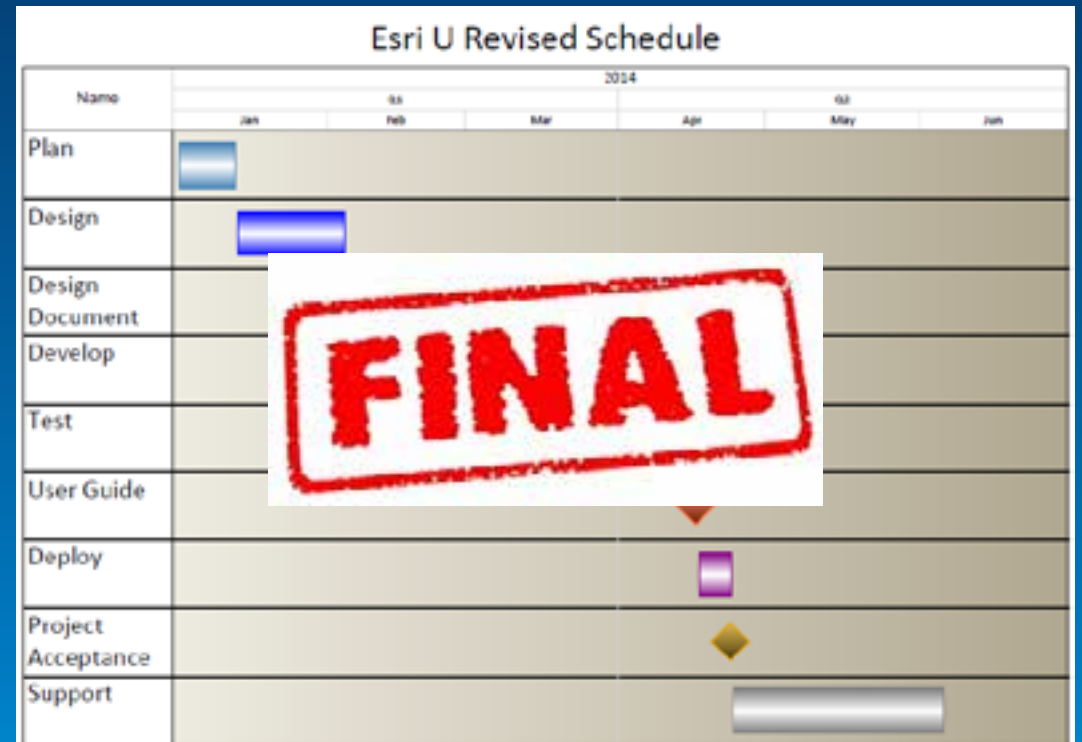


How Do We Plan?

Finalizing the Schedule

- Will it work?
- Team commitment & understanding
- Establish baseline

- Update frequently!



How Do you Know You Have A Good Schedule?

Use tools AND common sense to evaluate...

Schedule structure is sound

Slack is built into the schedule

Using a Standard WBS

Technical team provided estimates

All activities and deliverables are accounted for

Relative effort and duration of tasks makes sense

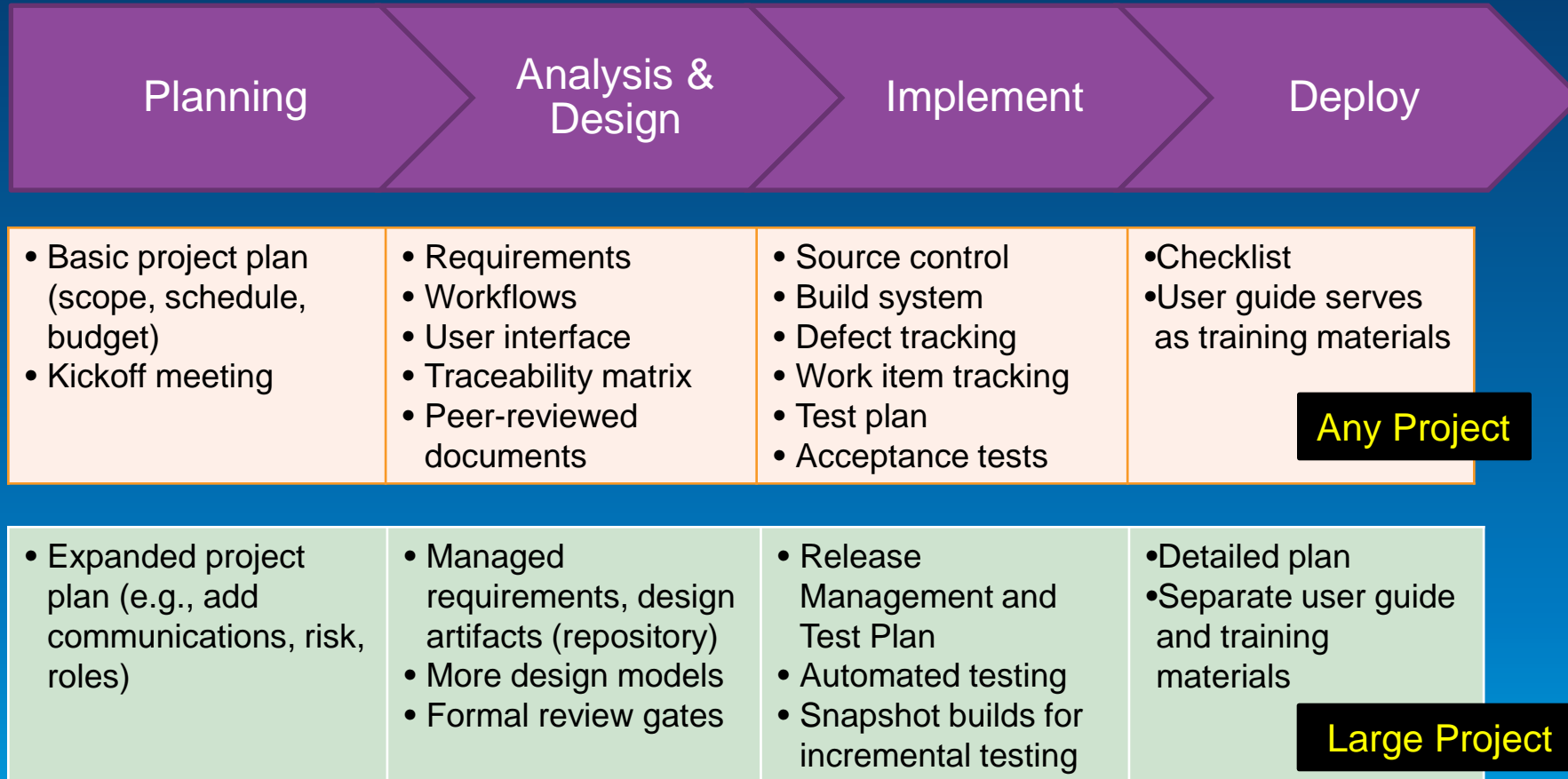
Team workload is balanced

Deliverable review periods make sense



What is the Right Amount of Management?

It depends on the size and complexity of the project.



Any Project

Large Project

Plan for Project Completion

- Clearly define what it means to be done!
- Reach agreement *Early* on
 - Quality goals
 - Acceptance criteria
 - How change will be controlled



Quality Goals

- **Place them in the context**
 - Requirements
 - Priorities
- **Reach agreement with the business owner**
- **Plan quality checkpoints throughout the project**
 - Peer reviews for documents
 - Interim reviews
 - Controlled tests

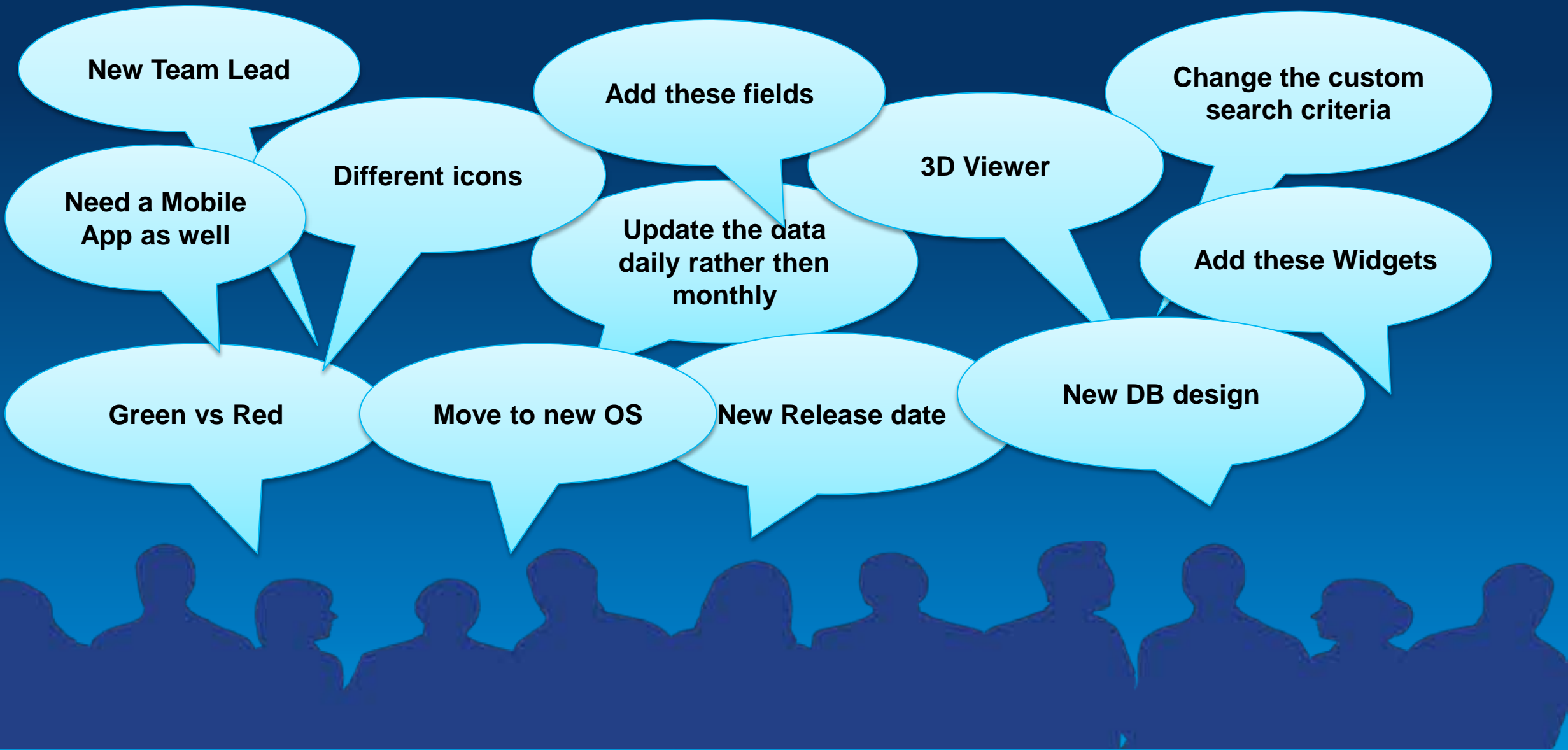


Acceptance Criteria

- Place them in context
 - Quality goals
 - Requirements
- Define them for all deliverables
- Reach agreement with the customer
- Use them to define tests



Deliverable	Reviews	Acceptance Criteria
Map Viewer Module	§Internal tests §User acceptance test(s)	§Module functionally complete §No Severity 1 errors §No Severity 2 errors
Requirements specification	§(XX) Internal peer review(s) §(XX) Customer review(s)	§Review draft delivered §Mutually agreed to comments incorporated §Final delivered



Manage Change

It will happen
What is the impact on scope, schedule
and Budget

Managing GIS Projects in the Enterprise

Key Challenges

Vision

- Business case
- Alignment
- Leadership
- Stakeholders

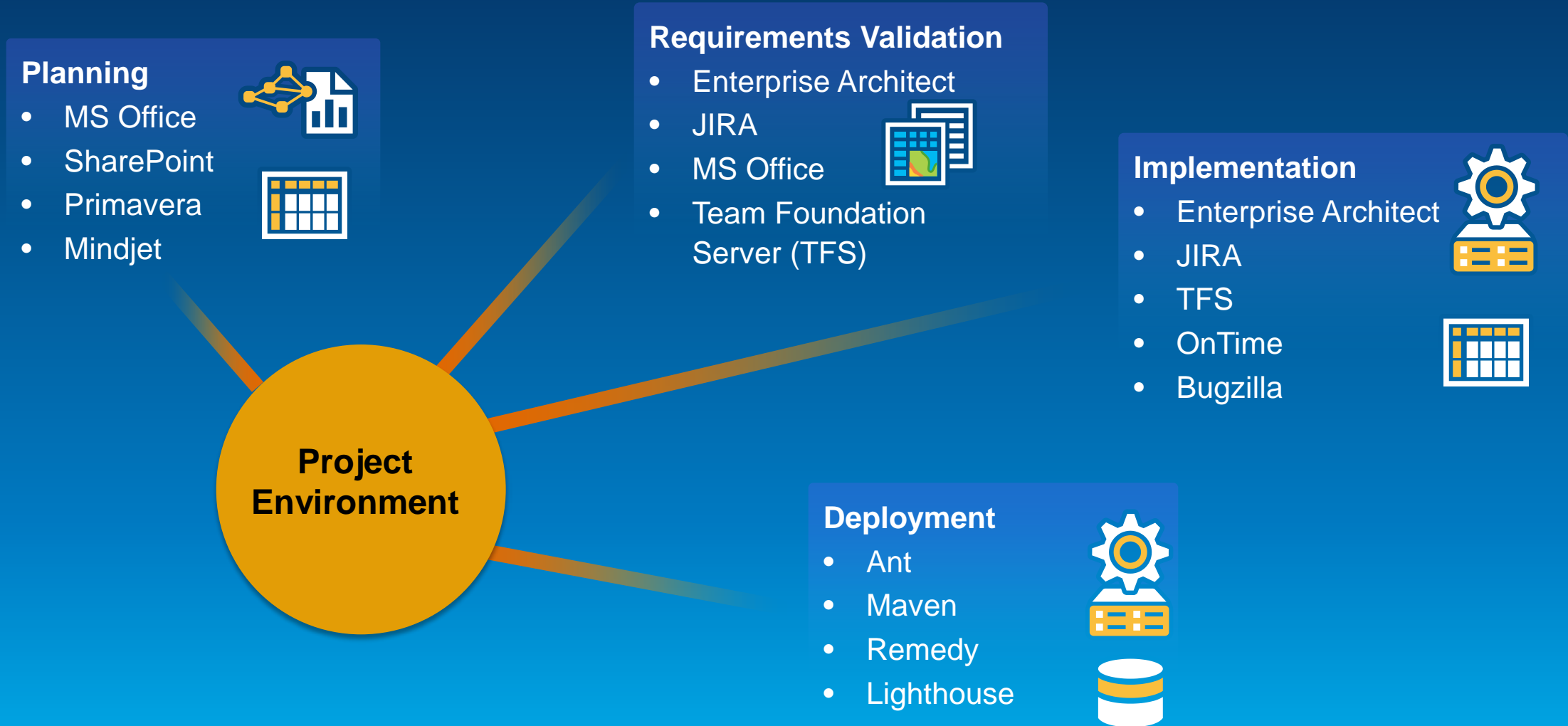
Planning

- What to build
- Priorities
- Alignment
- Allocating work
- Tempo

Results

- On track
- Quality
- Change

What Tools do You Need



Which of these are critical for Project Success?

Running part of the project using waterfall principles, and some using AGILE

Creating a schedule by yourself

Getting everyone on the same page early

Save time by eliminating testing and QA

Change how you communicate based on phase of project



Strategy and Planning—Review

- **Focus on business requirements**
- **Understand who are the key stakeholders and what is important to them**
- **Reaffirm objectives, commitments at the beginning of the project**
- **Add increasing amounts of details at each stage of the project**
- **Plan for change**

**“By failing to prepare,
you are preparing to fail”**

Benjamin Franklin

Author, scientist, politician

**“Plans are nothing;
planning is everything”**

Dwight D. Eisenhower

34th President of the US

**“Every hour of planning
saves about a day
of wasted time”**

Steve McConnell

Author of Software Engineering Textbooks

Questions?

Additional Resources

- **Esri project methodology**
 - www.esri.com/services/professional-services/methodology.html
- **Business case resources**
 - *Measuring Up: The Business Case for GIS, Volume 2*, by Christopher Thomas, Brian Parr, and Britney Hinthorne. Esri Press, 2012
 - *The Business Benefits of GIS: An ROI Approach*, by David Maquire, Victoria Kouyoumjian, and Ross Smith. Esri Press, 2008
- **Project Management**
 - *Software Project Secrets. Why Software Projects Fail*, by George Stepanek. Apress, 2012.
 - *Making Things Happen: Mastering Project Management*, by Scott Berkun. . O'Reilly Media, 2008
- **Project Initiation and Planning**
 - Project Management Body of Knowledge (PMBOK)
 - Project Management Institute (www.pmi.org)
- **Quality Management**
 - *Managing for the Sustained Success of an Organization – a Quality Management Approach*, ISO 9004:2009 (www.iso.org)

Thank you...

- **Please fill out the session survey:**

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Understanding our world.