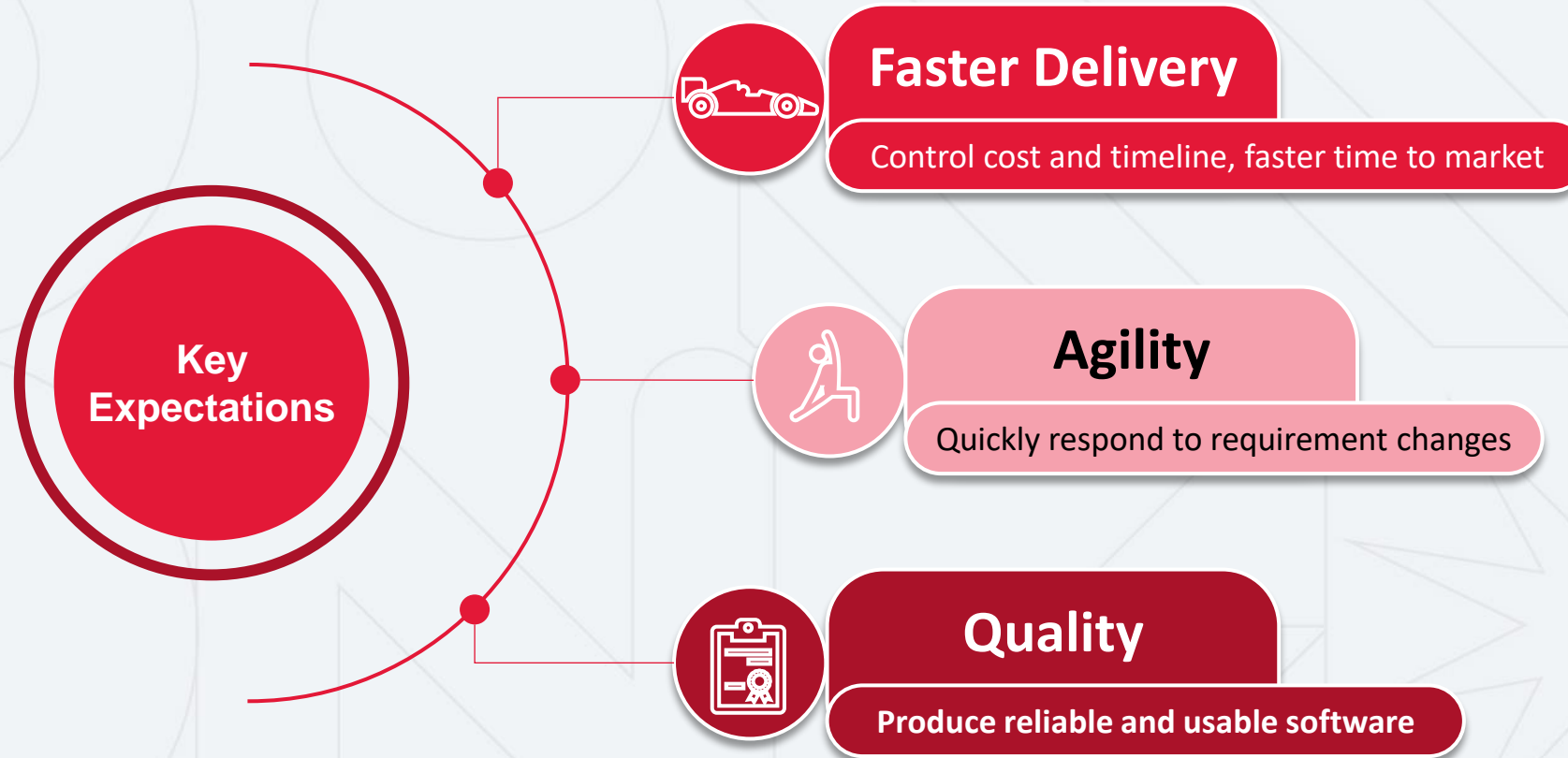




# **SDLC amplifAler**

AI assisted Software Development Life Cycle

# What Businesses Wants To Achieve During Their App Development Journey?



# While every stakeholder involved have their activities defined...

## But have their own challenges which impacts the program

### Activities they do

#### Business Analysts

- Understand business domain
- Understand requirements from business
- Draft requirements
- Create Product Backlog

#### Modernization SME

- Legacy code understanding
- Understanding processes
- Updating requirements and design
- Development, testing and deployment

#### Architects

- Design Application Architecture
- Draft High Level Design Document
- Draft Low Level Design Document

#### Developers

- Develop code
- Unit Test
- Deployment
- Push code to GITLAB/HUB
- Code analysis using SonarQube

#### Business Sponsor/Project Manager

- Project Tracking
- Budget Tracking
- Timeline Tracking
- Quality Tracking

#### Tester

- Write test scenario
- Write test cases
- Develop automation scripts
- Create/update test reports
- Test data creation

#### Support Engineer

- Monitoring
- Request and Incident management
- Root cause analysis
- Troubleshooting
- Understanding code
- Understanding processes

### Challenges they face

- Inter-team dependencies
- Requirements not clear
- SME Unavailability
- Lack of expertise

### Impact on program

- Slower Delivery
- Poor quality output
- Cost and Timeline Impact

# Applying AI across SDLC

Domain	Plan	Design	Build	Test	Deploy	Maintain	Modernize
Industry Domain Knowledge ★★★★★	Requirement Gathering ★★★★★	Technical Design ★★★★★	Coding ★★★★★	Test Scenario ★★★★★	Deployment Automation ★★★★★	Analysis of Logs, Metrics, Alerts ★★★★★	Code Explanation ★★★★★
Client specific domain knowledge ★★★★★	Scoping ★★	Architecture Design ★★	Unit Testing ★★★★★	Test Cases ★★★★★	Release Plan ★★★★★	Root Cause Analysis ★★★★★	Process Explanation ★★★★★
Business Analysis ★★★★★	Project Planning ★	UI Design ★★★★★	Integration Design ★★★★★	Test Automation ★★★★★	Release Notes ★★★★★	Proactive Monitoring ★★★★★	Development ★★★★★
	Backlog Creation ★★★★★	Middleware ★★★★★		Performance Testing ★★★★★		Predictive and preventive Maintenance ★★★★★	Testing ★★★★★
	User Story & refinement ★★★★★	Backend Design ★★★★★		NFR Testing ★★★★★		Resolution & Responsiveness ★★★★★	
		Database Design ★★★★★		Security Testing ★★★★★			

Domain Amplify

Document Amplify

Code Amplify

Quality Amplify

Document Amplify

Maintenance

Modernization

TechM SDLC amplifAler Theme

# So, can Gen AI help with Software Development Lifecycle?

Persona/Team Members	Use Cases	Can AI Help?
Business Analyst	"Can AI help with writing product backlog and BRD documents?"	Yes
Architect	"Can it help with HLD generation along with workflow designs?"	Yes
Developer	"I need help writing or generating source code"	Yes
Tester	"Can AI help with writing test cases?"	Yes
Scrum Master	"I want to refine my product backlog or user stories, can AI help?"	Yes
Tester	"I am having difficulty writing test automation script, AI please help"	Yes
Developer, Support Engineer	"Can it integrate with tools like JIRA/Agility/SNOW/Remedy and fetch and analyze textual information"	Yes
Support Engineer	"AI – please help me with performing root cause analysis"	Yes
Migration Engineer	"I am migrating legacy code; can AI help me with understanding the code?"	Yes
Tester	"I need help with generating test data, can AI help?"	Yes

These are a subset of use cases that AI/GEN AI can help with. There are lot more possibilities that can be discovered by discussing with SMEs

# Benefits For The Team Members

Persona/Team Members	Benefits
Business Analyst	<ul style="list-style-type: none"> <li>• "With GenAI based generation, I am able to generate and refine my user stories faster"</li> <li>• "I am also able to build my domain knowledge faster and quickly retrieve relevant information from the documents"</li> </ul>
Architect	<ul style="list-style-type: none"> <li>• "GenAI helps me by building a foundational document with the information on which I can build the final document. It greatly speeds up my process of creating architecture documents"</li> </ul>
Developer	<ul style="list-style-type: none"> <li>• "GenAI generates the sources code suited to my use case, but also helps with debugging"</li> </ul>
Tester	<ul style="list-style-type: none"> <li>• "I am able to generate test scenarios and test cases, and also updated JIRA board with the help of GenAI and GenAI integration with JIRA"</li> </ul>
Scrum Master	<ul style="list-style-type: none"> <li>• "GenAI is able to help me with refining existing user stories, augment them with additional data, making the content more robust"</li> </ul>
Tester	<ul style="list-style-type: none"> <li>• I don't need to write automation test scripts manually. I just feed the test scenarios and BRD documents, and I get a selenium automation script, which I then refine to suit my need"</li> </ul>
Developer, Support Engineer	<ul style="list-style-type: none"> <li>• "with integration with tools like JIRA/Agility/SNOW/Remedy, I am able to get historical information that is already analyzed by GenAI and therefore allows me to achieve faster resolution"</li> </ul>
Support Engineer	<ul style="list-style-type: none"> <li>• "GenAI integration with log, alert and monitoring tools, provides me with a view of correlated information coming from different sources onto a single screen"</li> </ul>
Migration Engineer	<ul style="list-style-type: none"> <li>• "With GenAI, I am able to efficiently understand the legacy code line-by-line, as well as understand the overall flow and dependencies",</li> </ul>
Tester	<ul style="list-style-type: none"> <li>• "I can synthetically generate the test data, thus improving my testing speed"</li> </ul>

# Bringing this together with TechM's Solution - SDLC amplifiAler powered by Azure AI & GitHub

## Support for all themes

Document Amplify

Code Amplify

Domain Amplify

Modernization

Quality Amplify

Maintenance

## Capabilities/Use cases

Document QnA

Document Summarization

Code Generation

Code Understanding

Workflow Generation

Process Understanding

Test Artefact Generation

RCA and Data Analysis

Agile Artefacts  
Generation

Domain Understanding

## Guided by principles

- Microservice Architecture
- Plug and Play with any tools with minimum configuration
- Responsible-by-design and Guardrails
- Security is priority
- Commitment to open source

# Overall Program Benefit

**Faster turnaround** time due to GenAI's ability to consume data and provide relevant information

**Quick content output** (e.g., documents, codes, test cases) due to its content generation capability

Relevant information and quicker content generation leading to **Time and Effort Saving**

Expected to **improve** the overall program **throughput by 35% to 40%**



**TECH**  
**mahindra**