Achieve Application Modernization Through Deep Automation

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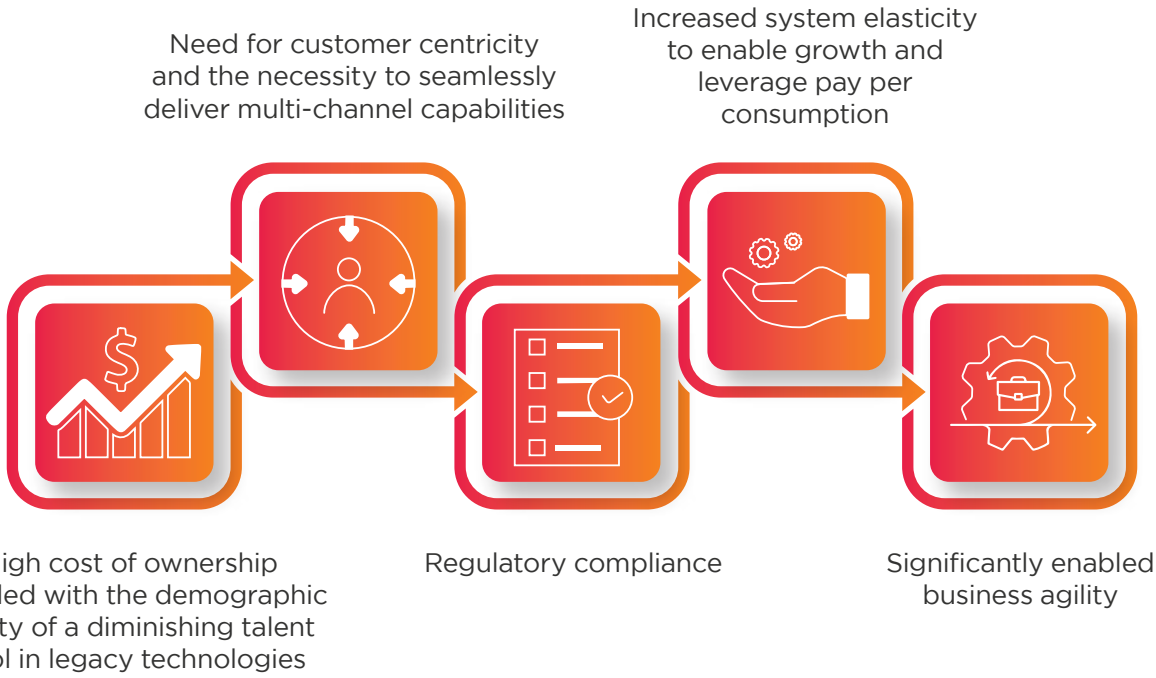
Apps Modernization
Introduction

Apps modernization – HCL overview

The digital world has offered large businesses a chance to operate in a more dynamic environment, but they are often held back by legacy systems. Enterprises worldwide have a wealth of application logic and capabilities that are core business assets, with time-tested industrial strength. However, the digital economy has unleashed an era of innovation, driven by consumerization and relentless disruption with the advent of niche players and powerhouses in most verticals

For businesses to thrive today, it is imperative for them to drive change with application modernization. This results in significantly higher agility, often inhibited by legacy systems. Some of the key challenges with legacy systems are :

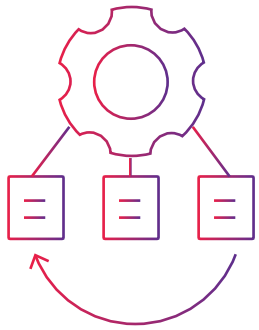


HCL's biggest strength, when it comes to legacy application modernization, is our ability to integrate several of our distinct capabilities formed over decades of experience. These capabilities are powered by automated tools that are built for automated code generation, and forward engineering-based legacy revitalization. Our other key capabilities include cloud assessment based on machine learning, migration and applicationre-engineering.

Solutions

Solutions

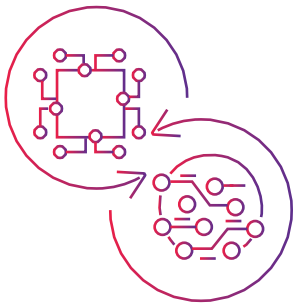
Prizm



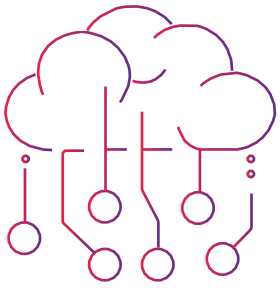
Tool for generating insights around technical debt and functional fitment across applications, infrastructure, databases, and underlying infrastructure. Led by a business capability assessment approach to help define the right-fit modernization and migration strategies.

Advantage modernize

A framework for transformation of applications from various states of legacy, technical & functional debts to modern state through a multitude of automation led treatments and cloud migration, to fit the context of the applications and achieve business goals.



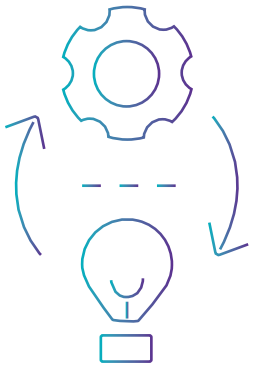
Advantage cloud



Accelerates migration of on-premise applications to cloud environments over Cloud Native (PaaS) & Lift n Shift (IaaS) models. It can identify application incompatibilities for the target cloud platform, potential avenues to leverage native cloud services and remediates the code through automation.

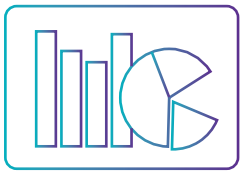
Services

Services



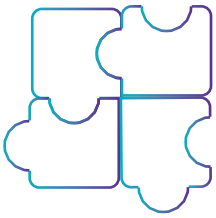
Legacy modernization

Offers a variety of modernization approaches that are fit for IT and business objectives, immediate and long-term, employing deep automation and machine learning solutions to drive transformation at scale



Application portfolio optimization

Discover and create portfolio insights across the IT landscape and business value chain to envision and govern application modernization solutions, roadmap, and strategies



Application decommissioning and archival

Service to assess impact and establish efficient archivaland decommissioning factory, suitably supported by industry-leading practices and tools

Cloud migration

Roadmap for implementation of enterprise cloud migration, cloud platform selection, detailed migration plan, effort estimation, interface handling, management of internal and external dependencies, applications monitoring requirements, storage management, provisioning requirements, and license management

We are helping define the future of industries

Insurance

Modernized legacy Uniface platform to Java and re-distribution of the core building blocks to multi-tier architecture saving 3M+ Euros for the client

HealthCare

Hybrid approach to modernize legacy PL/I platform to Java and automated refactoring to customize it for implementation in Canada

Financial Services

Migrated from legacy HPS platform to Java using Automated Technology Modernization Accelerator (ATMA) approach saving 73% of modernization effort

Manufacturing (Aircraft)

Modernized legacy Oracle Forms platform (5M+ Line of Code) to .NET saving 66% of effort for application transformation in transforming 3221 function points of scope

We are invested in the future of application modernization with our partnership ecosystem, solution offerings and co-innovation labs

Leader for application modernization and migration services, wave™ 2019

Forrester

Leader and star performer in cloud enablement services, 2019

Everest

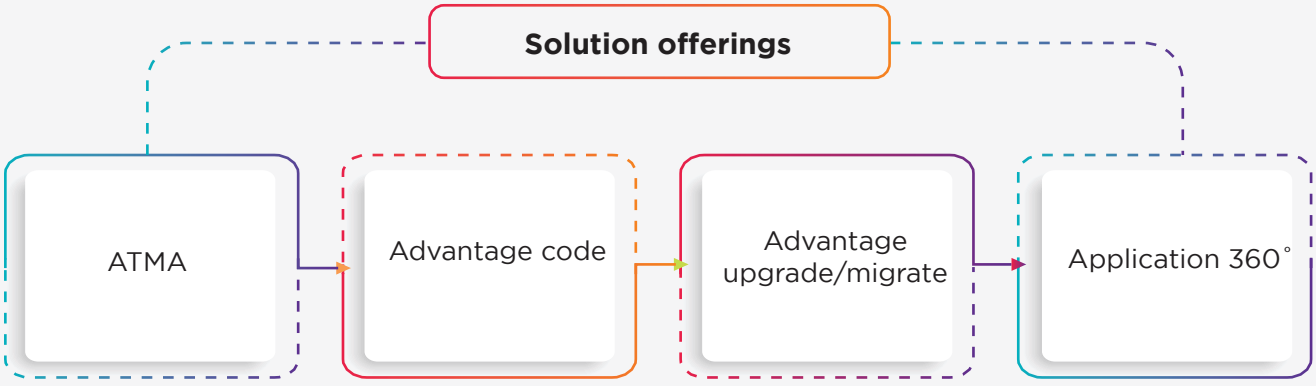
Leader in application transformation services peak matrix 2019

Everest

Marquee customer

Nordea · The Standard · AMOS Transforming Allianz into a Digital Group · Applied Materials · Disney · Boeing · KBR · Aegon · Allianz · JUST. Rethink Retirement · Maybank · Meritor · Commonwealth Bank · Bank of Ireland · casamba

Solution offerings



Diet pathways for application modernization

Innovate

Using emerging technologies on premise or cloud to deliver new business capabilities

- App modernization assessment
- App development for replacement
- App migration execution

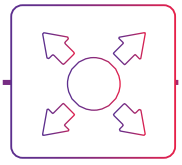
Best Fit Scenarios
Fitment to SaaS, Emerging Techs

Transformation

Experience driven transformation of an application

- App modernization assessment
- App development for replacement

Best Fit Scenarios
Value in Existing App

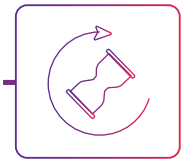


Extend

Keeping the lights on by adopting portfolio optimization and decommissioning strategies

- App modernization assessment
- App retirement and rationalization
- App modernization execution
- App migration execution

Best Fit Scenarios
Simplification, Cost out, Keep the lights on



Disrupt

Tool based approach for migrating code from legacy system architectures or infrastructure to modern state and APIfication

- App modernization assessment
- App modernization execution

Best Fit Scenarios
Technically Extend the app that works

Diet pathways for modernization & migration deep dive extend

Keeping the lights on by adopting portfolio optimization and decommissioning strategies

Technical domain

- Upgrades
  - Java, .NET
  - Various DB
- Application consolidation
- Decommissioning & archival
- Legacy framework upgrade & migration
  - JEE and legacy .NET

Our IPs

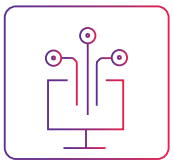
- Advantage migrate
  - Server
  - Framework
  - Database
- ADvantage upgrade
  - Java versions
  - App server
  - Framework
  - Database

Pricing models

Catalogue based | **Time & material** | **Fixed scope & price**

Diet pathways for modernization & migration deep dive disrupt

Tool based approach for migrating code from legacy architectures or infrastructure to modern state and apification



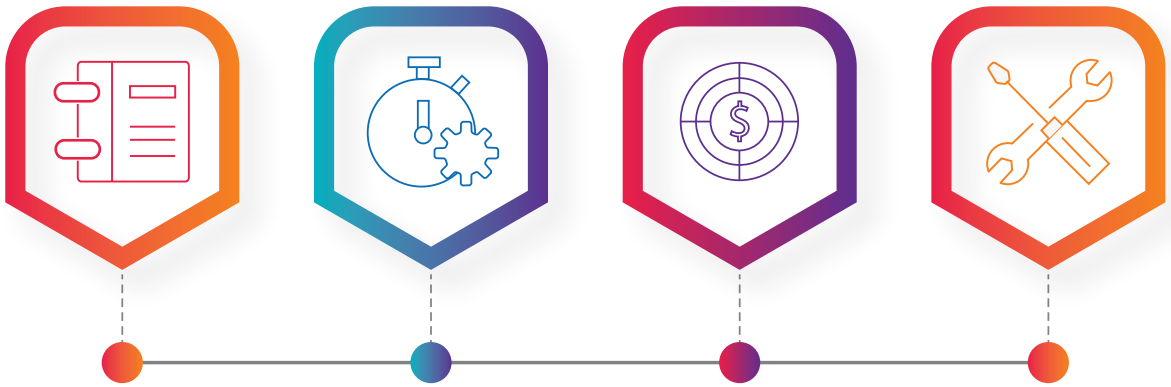
Technical domain

- Code & architecture modernization
  VB, ASP, Oracle Forms, Power Builder,Natural, Cobol, PL/I, RPG LANSA, TIBCO
- M/F to X86 migration
  Microfocus rehost
  Cobol recompile

Our IPs

- ADvantage modernize
  ATMA
  CAPS
  ILITDC
  ADC
  Pareeksha

Pricing models



Catalogue based

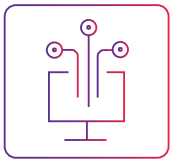
Time & material

Fixed scope & price

Utility based

Diet pathways for modernization & migration deep dive innovate

Using disruptive technologies on-premise or cloud platform to deliver new business capabilities



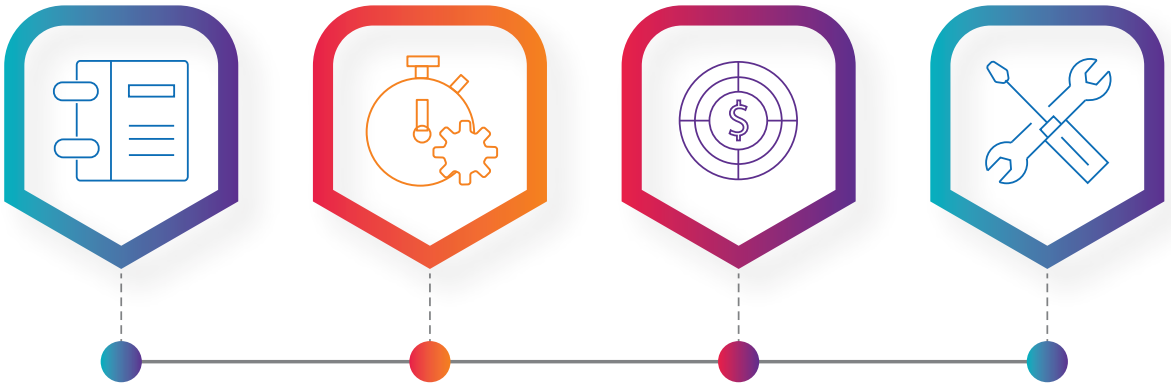
Technical domain

- Forward engineering app development / disruptive technologies
- Low code platforms
- COTS/SaaS replace

Our IPs

- Advantage code
  ADPaaS
  App360
- Advantage replace
  Digital care
  MAXX HUB
  Omniverse

Pricing models



Catalogue based

Time & material

Fixed scope & price

Utility based

Diet pathways for modernization & migration deep dive transform

Using disruptive technologies on-premise or cloud platform to deliver new business capabilities

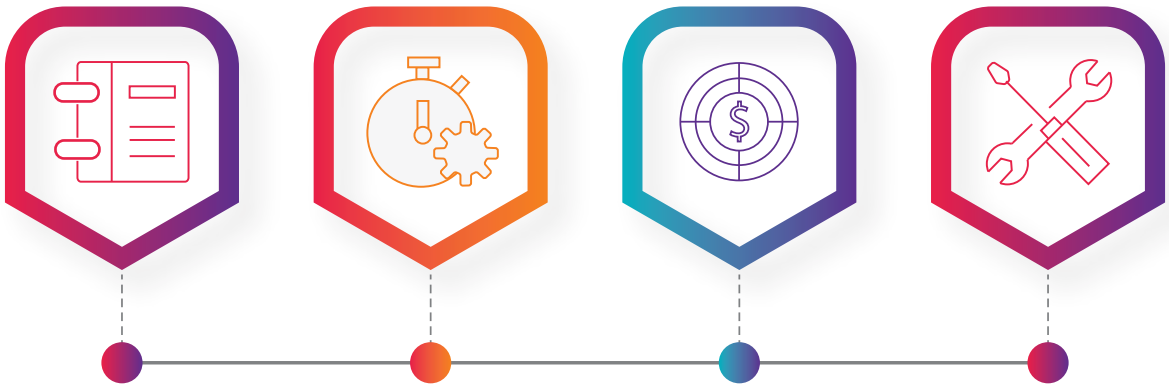
Technical domain

- Forward & reverse engineering
- Business rules extraction
- Business process re-engineering

Our IPs

- Advantage code
  ADPaaS
  App360
- Advantage replace
  AutoDoc
  ILITDC

Pricing models



Catalogue based

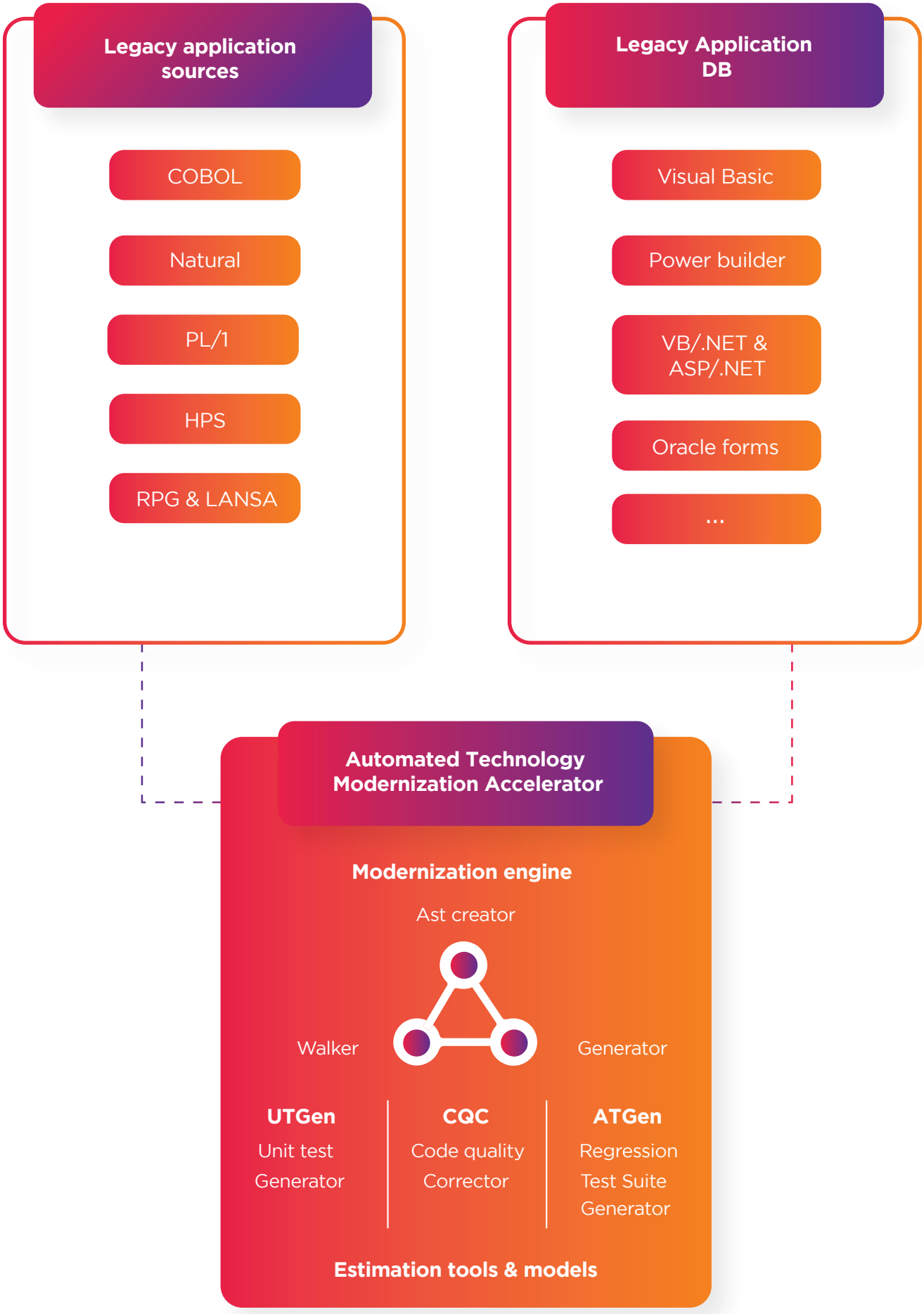
Time & material

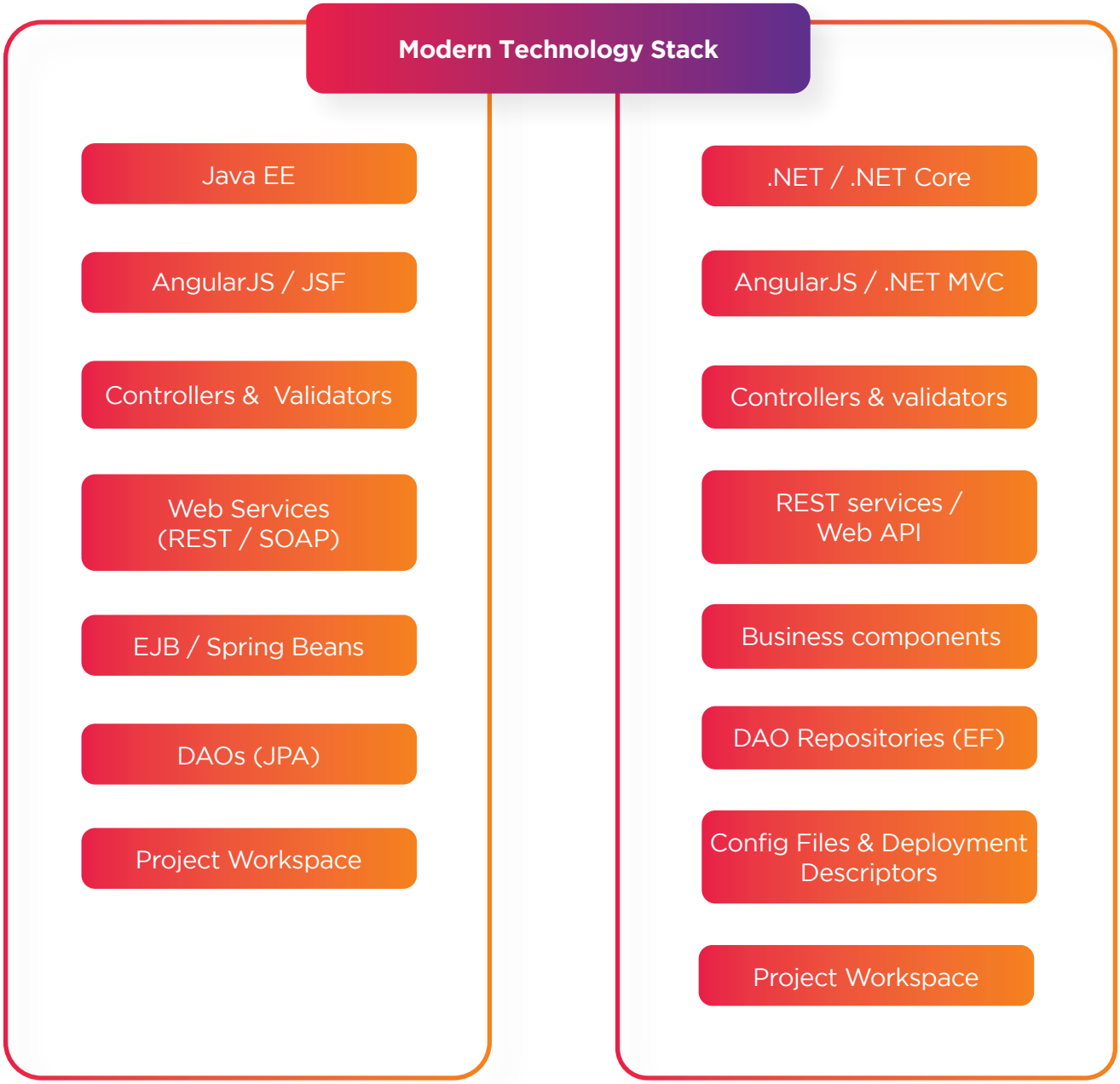
Fixed scope & price

Utility based

Advantage modernize-powered by ATMA

Legacy application stacks





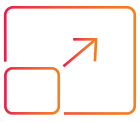
(70-80% ready code, needs manual effort for 100% readiness)

Low risk

Economic

Quick

Reliable

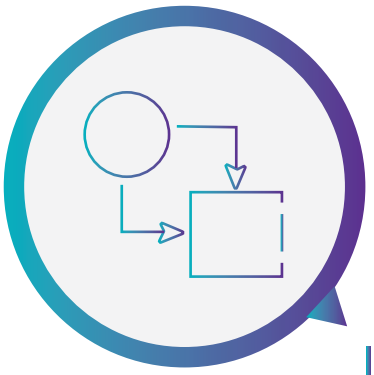


Extendible

No lock-In

ATMA provides architecture transformation and delivery automation

ATMA helps to accelerate modernization of your legacy system applications to modern architecture and platforms. ATMA-based approach helps to achieve transformations at scale and deliver customized solutions in short duration at lower cost with minimum risk



Architecture transformation

- Transforms monolithic and client server architecture to multi-tier, modular architecture
- Supports micro-services
- Enables cloud migration
- Facilitates user experience transformation and digitalization
- Scalable, flexible, extendible and maintainable

Delivery automation

- ATMA approach promotes high degree of automation at each step of transformation for legacy application modernization. The platform infuses automation for
  - Application modernization
  - Code quality management
  - Unit test development
  - Functional testing

Customizable solution

- ATMA is extendible to support modernization of more legacy platforms
- Java/JEE, .NET MVC, .NET Core, Angular JS etc. are supported in modern state
- Solution is customizable to adopt to customers' technology blueprints

ATMA - tools

Modernization engine

- Automated code conversion
- 70-80% effort savings in code phase
- Multi-tier architecture on modern platform, scalable, extendible and high performing

Unit test generator

- Automated test unit creation
- Test cases are 80% ready
- Overall 10% effort savings

Code quality corrector

- Automated code quality analysis and correction
- 50% of code quality issues will be fixed automatically
- 5% effort savings

Automation test suite generator

- Generate automated regression test suite automatically
- 50% effort savings in creation of automated regression test suite

Our application modernization process powered by ATMA

Discovery

Pre-Requisites

- Functional & technical documents
- Access to legacy application
- Source code

Activities

- System analysis
- Functional & technical understanding
- Prepare test scenarios and test cases
- Customize ATMA for the technology versions in scope

Outcome

- Test scenarios & test cases
- Revised project plan

Preparation

Pre-Requisites

- DB schema details
- DDLs to replicate schema
- Test data
- Test cases

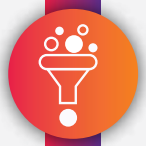
Activities

- Source & target Environment setup
- Sources extraction from current systems
- DB setup and sample/test data load
- Upgrade and conversion environment setup

Outcome

- Conversion and upgrade environment
- System sources

Conversion



Pre-Requisites

- Source code

Activities

- Execute upgrade and conversion tools
- Generate target environment sources for various components and layers

Outcome

- NET solution schafold
- Target application sources

Refactoring

Pre-Requisites

- Legacy technologies, SME support
- Functional SME support
- Access to legacy application environment

Activities

- Code refactoring and enhancements
- Unit testing
- Code quality assessment and fixes
- Retrofit of previous releases

Outcome

- Application packages for the modernized system
- Code quality reports
- Build and deployment scripts

Testing

Pre-Requisites

- Test scenarios
- Test plan
- Test data

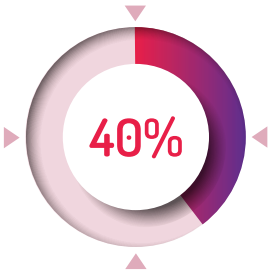
Activities

- Functional testing
- System integration testing
- Code quality assessment and fixes
- Performance & scalability testing

Outcome

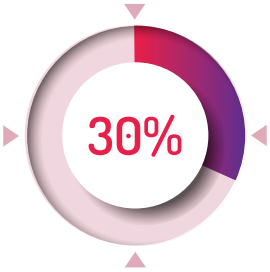
- Test Results
- Verified Application Sources
- Project deployment units/binaries

Benefits delivered by Automated Technology Modernization Accelerator (ATMA)



Improvement of time to market

Reduction of effort & cost

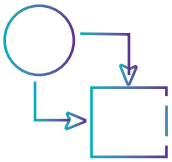


AMS productivity improvement

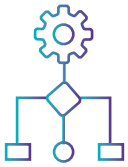
Digital transformation

Containerization

User experience



Modern/micro-services architecture



Process automation

Cloud migration

Case study

Case study-migrate from legacy VB platform to JAVA for a leading manufacturing organization in US

Key strategic imperatives

The organization had their core Kitting systems and several other satellite systems built on legacy Visual Basic platform, imposing the following challenges

- Microsoft withdrew support for VB platform effective 2008 & these systems are currently maintained on unsupported technology platform
- The organization's global IT declared VB as a toxic platform, leading to non-compliance to IT blueprint
- Inflexible architecture, fragile platform with several version compatibility issues during platform upgrades resulting in higher implementation & maintenance costs
- Non-availability of adequate skills in the market for maintenance of the systems due to technology being outdated
- Extendibility and integration with other enterprise systems/central systems to enable multichannel support and STP

HCL Solution

- Automated Technology Modernization Accelerator (ATMA) approach to modernize from legacy VB platform to Dot Net
- Re distribution of the core building blocks to multi-tier architecture so that it is extendable, scalable and maintainable
- Re-Platforming of Clear Orbit Integration aligning to modern platforms

Outcomes

Saved 50% of the effort for the modernization of applications

Cost saved $30,000 – interface using telnet. License cost & recurring yearly renewal cost $3000

Cost saved $10,000 – 3rd party s/w license cost and yearly recurring license renewal cost

Tier architecture (presentation, business and data)

Delivered in 50% less time

HCL

HCL Technologies (HCL) empowers global enterprises with technology for the next decade today. HCL's Mode 1-2-3 strategy, through its deep-domain industry expertise, customer-centricity and entrepreneurial culture of ideapreneurship™ enables businesses to transform into next-gen enterprises.

Life Sciences division of HCL Technologies helps Pharma, Biotech, Medical Devices and CROs reimagine their businesses for the digital age through integrated portfolio of products, solutions, services. Our 10,000+ Life Sciences Ideapreneurs across 43 countries deliver innovation for over 80% of world's leading Life Sciences companies in Research, Clinical, Regulatory, Safety, Commercial, Patient Services, Supply Chain, Manufacturing, Enterprise and IT Management. Our solutions are built around digital, IoT, cloud, automation, cybersecurity, analytics, infrastructure management, and engineering services, among others. Over the years, our Veeva practice along with our subsidiary C3i Solutions' Veeva practice has been working with our clients for many leading transformational and run-the-business initiatives. Contact us at contact.lsh@hcl.com

As a leading global technology company, HCL takes pride in its diversity, social responsibility, sustainability, and education initiatives. As of 12 months ending on June 30, 2020, HCL has a consolidated revenue of US$ 9.9 billion and its 150,000 ideapreneurs operate out of 49 countries. For more information, visit www.hcltech.com

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