Mainframes remain mission-critical, and usage is growing...

According to a 2020 MIT Technology article in collaboration with IBM1

67 Fortune 100 companies
44 of the worlds top 50 banks
8 of the top 10 insurers
8 of the top 10 telcos
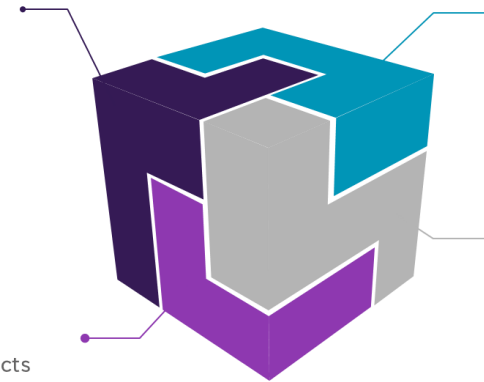**7 of the top 10 retailers**
4 of the top 5 airlines

...still use mainframes

The risks are very high...

Mainframes are core system of records. Any disruption or loss of functionality may impact business.

Governing Transformation

With many moving parts and stakeholders, modernization projects are inherently complex.

Constrained on the budget

With most of the budget going towards managing the existing systems, there is no separate budget left to transform.
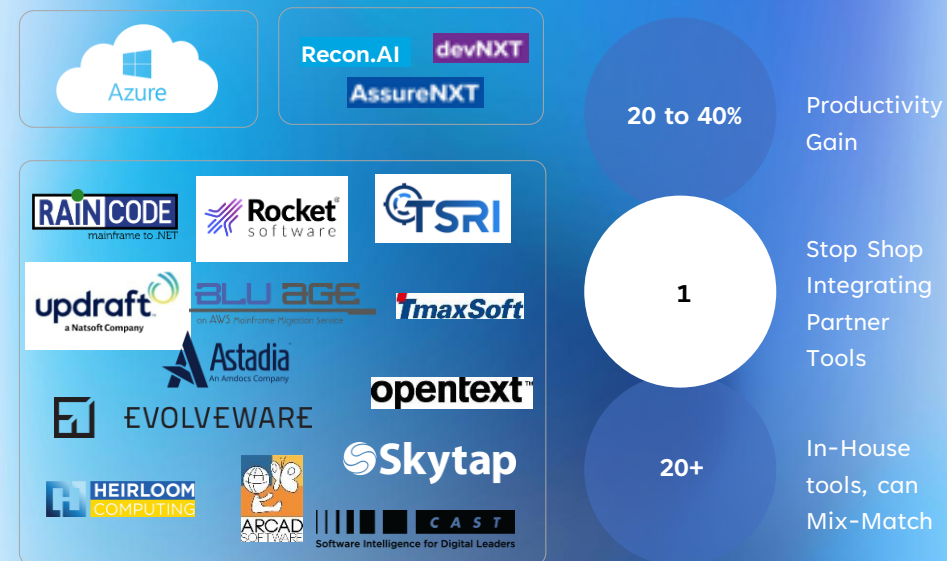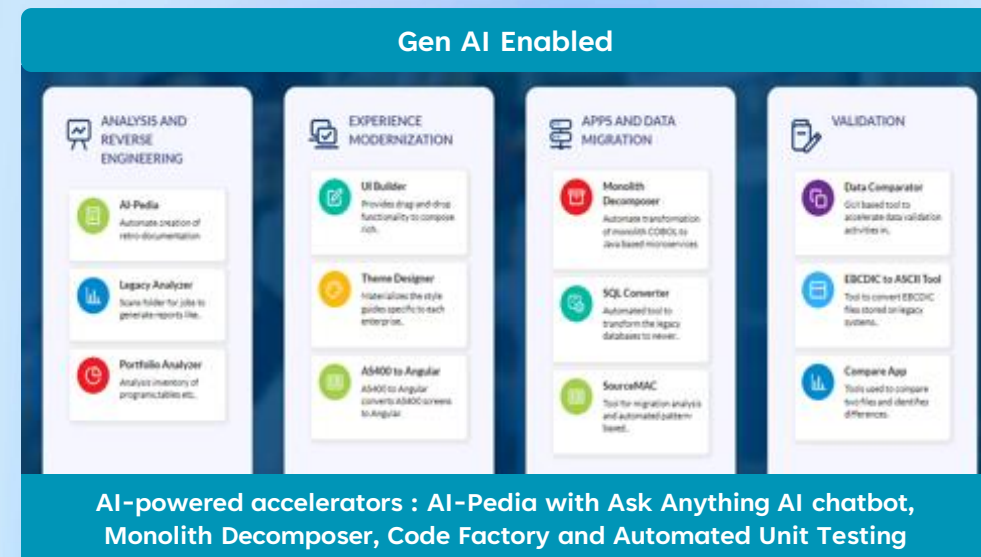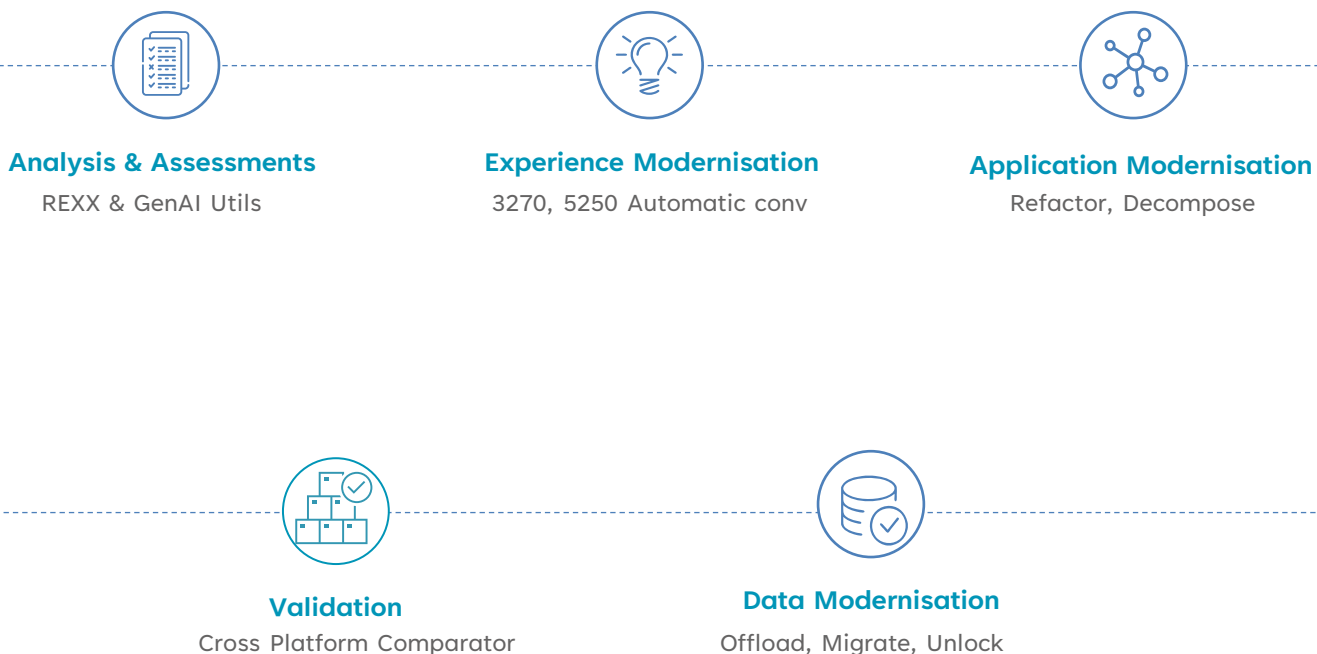
Missing Strategy & Roadmap

Many companies don't know where to begin the journey and what the target end state should be.

2021 "Global Application Modernization Business Barometer" report reflected the difficulties of replacing legacy technologies, highlighting the fact that 77% of organizations that started a legacy system modernization project failed to complete it.

ModerniZ : E2E Platform To Accelerate & De-risk Modernization Journey

modern iz is an Integrated platform for end-to-end AI-powered Modernization

Analysis & Assessments
REXX & GenAI Utils

Experience Modernisation
3270, 5250 Automatic conv

Application Modernisation
Refactor, Decompose

Validation
Cross Platform Comparator

Data Modernisation
Offload, Migrate, Unlock

Gen AI Enabled

| ANALYSIS AND REVERSE ENGINEERING | EXPERIENCE MODERNIZATION | APPS AND DATA MIGRATION | VALIDATION |

AI-powered accelerators : AI-Pedia with Ask Anything AI chatbot, Monolith Decomposer, Code Factory and Automated Unit Testing

Azure

Recon.AI   devNXT
AssureNXT

20 to 40% — Productivity Gain

1 — Stop Shop Integrating Partner Tools
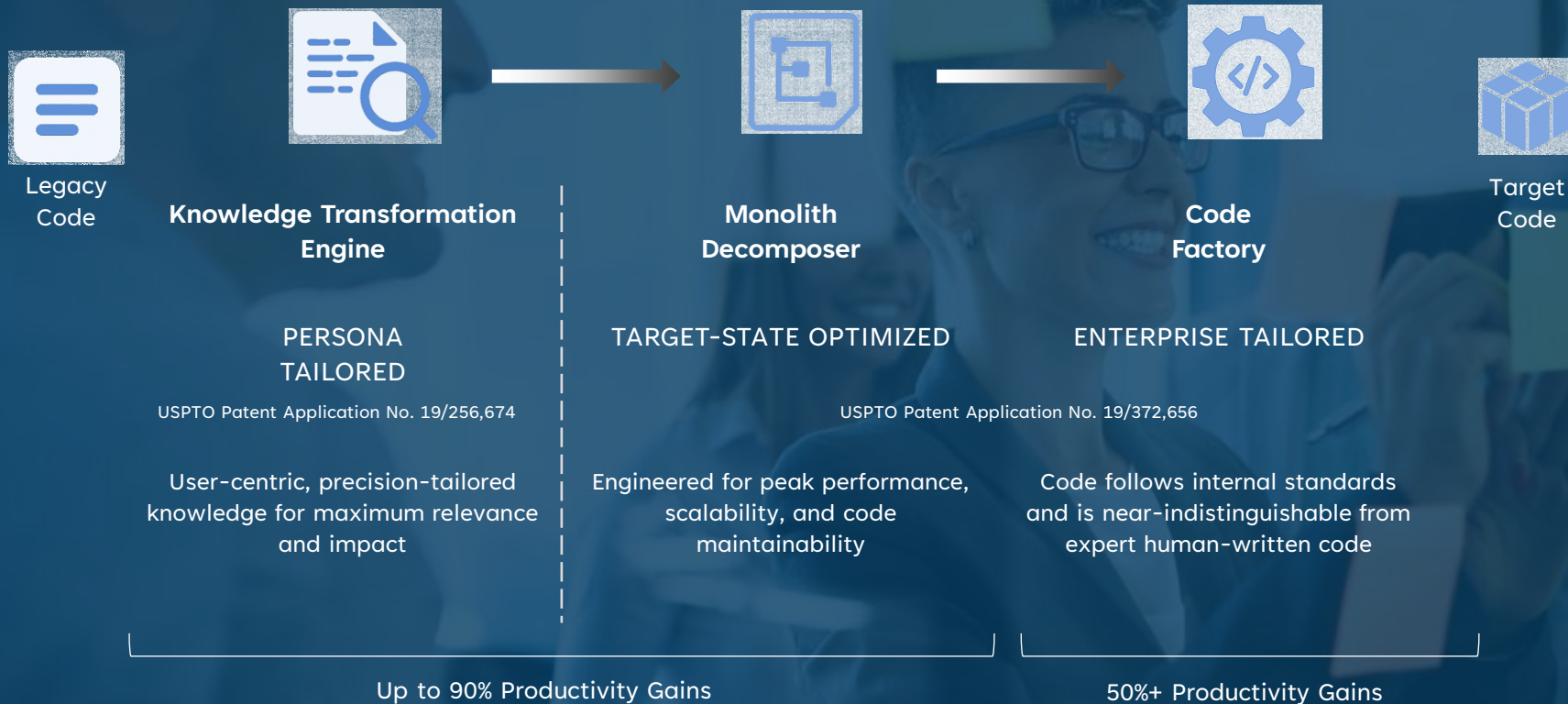
20+ — In-House tools, can Mix-Match

Compatible for all Cloud DBs & Ecosystem

wipro

Increased Customer Demand in leveraging AI-powered Modernization

Our AI-powered offering is a game changer in differentiating and de-risking modernization, reflecting positively through voice of customer
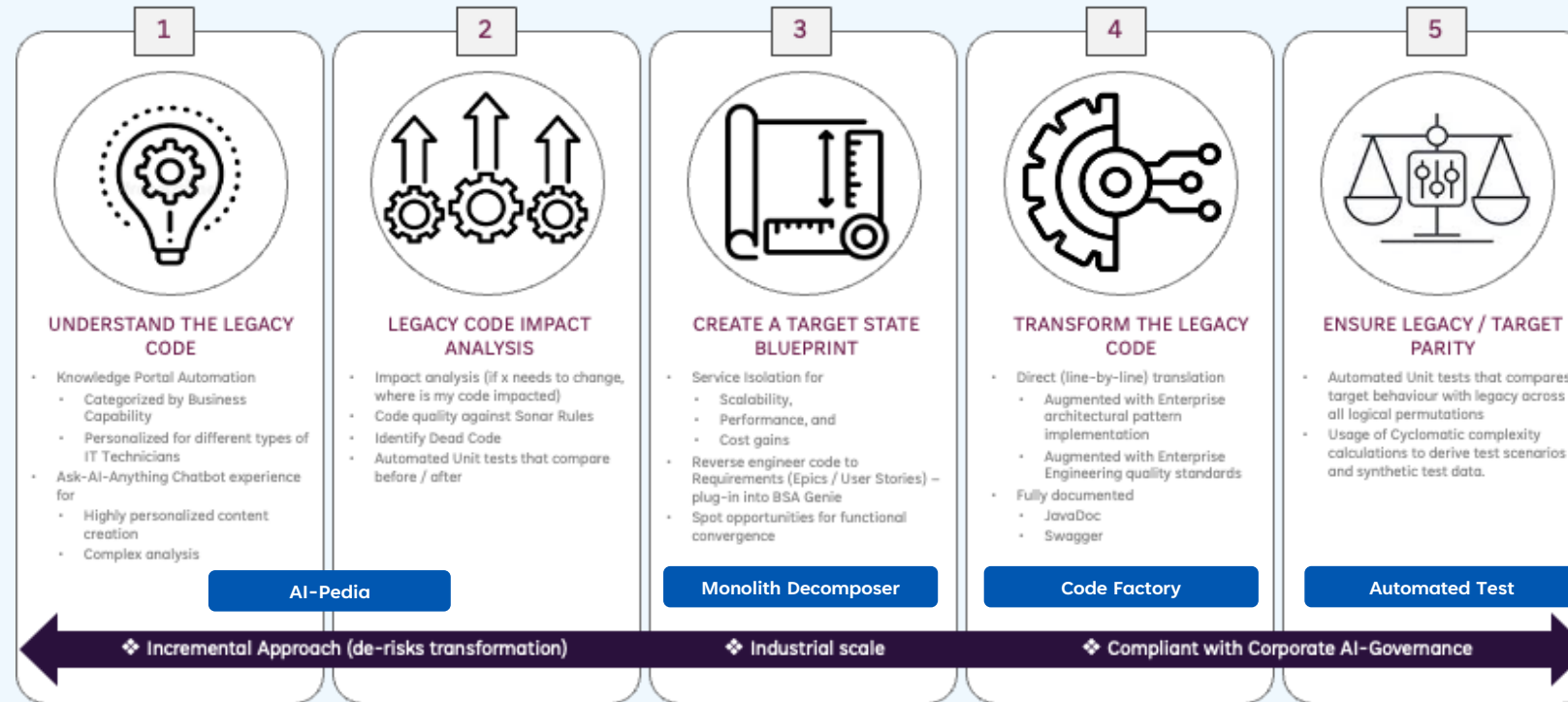
Our Legacy Modernization Toolkit comprises of three components

Legacy Code

Knowledge Transformation Engine

PERSONA TAILORED

USPTO Patent Application No. 19/256,674

User-centric, precision-tailored knowledge for maximum relevance and impact

Monolith Decomposer

TARGET-STATE OPTIMIZED

USPTO Patent Application No. 19/372,656

Engineered for peak performance, scalability, and code maintainability

Code Factory

ENTERPRISE TAILORED

Code follows internal standards and is near-indistinguishable from expert human-written code

Target Code

Up to 90% Productivity Gains

50%+ Productivity Gains

Wipro's AI-powered Mainframe Modernization Solution

moderniz - AI-powered accelerators, personalized for you!

1 — UNDERSTAND THE LEGACY CODE

- Knowledge Portal Automation
  - Categorized by Business Capability
  - Personalized for different types of IT Technicians
- Ask-AI-Anything Chatbot experience for
  - Highly personalized content creation
  - Complex analysis

AI-Pedia

2 — LEGACY CODE IMPACT ANALYSIS

- Impact analysis (if x needs to change, where is my code impacted)
- Code quality against Sonar Rules
- Identify Dead Code
- Automated Unit tests that compare before / after

3 — CREATE A TARGET STATE BLUEPRINT

- Service Isolation for
  - Scalability,
  - Performance, and
  - Cost gains
- Reverse engineer code to Requirements (Epics / User Stories) – plug-in into BSA Genie
- Spot opportunities for functional convergence

Monolith Decomposer

4 — TRANSFORM THE LEGACY CODE

- Direct (line-by-line) translation
  - Augmented with Enterprise architectural pattern implementation
  - Augmented with Enterprise Engineering quality standards
- Fully documented
  - JavaDoc
  - Swagger

Code Factory

5 — ENSURE LEGACY / TARGET PARITY

- Automated Unit tests that compares target behaviour with legacy across all logical permutations
- Usage of Cyclomatic complexity calculations to derive test scenarios and synthetic test data.

Automated Test

❖ Incremental Approach (de-risks transformation)   ❖ Industrial scale   ❖ Compliant with Corporate AI-Governance

20 to 40% Productivity Gain

1 Stop Shop Integrating Partner Tools

20+ In-House tools, can Mix-Match

Differentiated tangible Benefits

- **Cost Reduction** - By reducing reliance on legacy knowledge and minimizing manual discovery, impact analysis, and coding efforts

- **Risk Mitigation** - By employing a systematic approach that allows for a controlled (crawl-walk-run) transition from legacy to target and plugging in proven patterns and best practices into the process

- **Accelerated Time-to-market** - Through automated knowledge harvesting and code translation that considers client's technology environment and engineering standards

- **Future Proof** - By ensuring that the target architecture blueprint is optimized towards target service isolation which is key to industrial scalability and performance

Wipro's AI-powered Mainframe Modernization Case Studies

Across various industries and legacy/target technology stacks

Wealth Management Division - T1 Bank

- Performed extensive analysis and reverse-engineering of COBOL/JCL/DB2 systems, generating Java microservices and validating functional parity. Defined a BIAN-aligned functional taxonomy and delivered detailed knowledge repositories for four IT personas.
- Outcomes covered analysis of 2 million lines of code, creation of 8 microservices, and 70 test cases.

US-based Power Company

- Analysed and modelled legacy COBOL code from a Time Reporting Information System, automated test scenario creation, and built a comprehensive knowledge repository. Generated detailed functional taxonomy and extracted hundreds of business rules.
- Outcomes included 262,000 lines of COBOL analysed, modelling of 95 programs, 71 sub-programs, and 855 business rules.
- Currently performing automated conversion of this legacy stack to C#.

Brazilian State-owned Company

- Migrated two complex Natural/Adabas programs to Java/Quarkus, creating detailed documentation and business-rule extraction. Delivered enhanced Java applications with clear logic parity, comprehensive metadata, and automated unit tests.
- Outcomes include detailed reverse engineering of 21 programs, 5,000 lines of code analysed, and data lineage documentation.

American Financial Services Company

- Demonstrated rapid reverse-engineering of JCL/COBOL applications, producing taxonomies, knowledge graphs, and sample Gen-AI prompts. Delivered detailed documentation and virtual replicas for accelerated code analysis.
- Outcomes encompassed 40,000 lines of code analysed, modelling of 16 jobs and 69 COBOL programs.

T1 Bank in USA

- Significantly accelerated the generation of data lineage assets through automated analysis of COBOL applications. Produced detailed dependency maps, process flows, and data dictionaries, reducing weeks of manual effort to mere days.
- Outcomes featured analysis of 9,000 lines of COBOL, creation of data lineage assets in two weeks, and comprehensive knowledge portals.
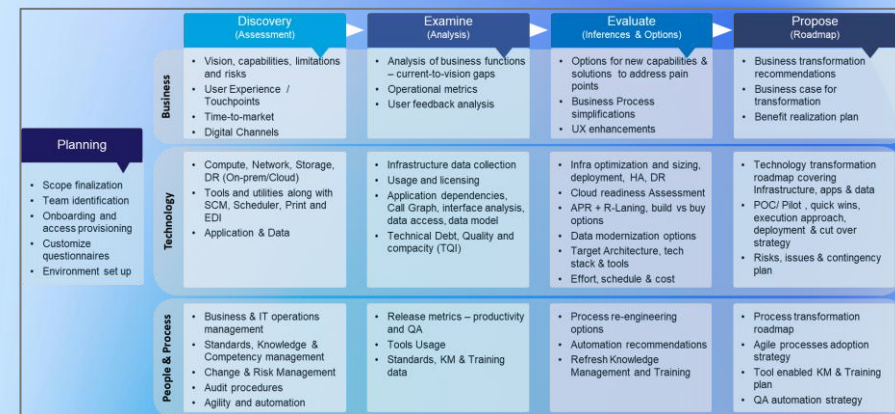
German Bank

- Created a detailed virtual replica of a 150,000-line Java monolith, aligned it with the BIAN taxonomy, and provided interactive documentation for multiple business and technical roles. Delivered accurate modernization effort estimations and actionable insights via an AI-driven interface.
- Outcomes included reverse engineering of 1200 Java files, detailed virtual replica creation with over 7000 interconnected nodes, and answering over 30 critical business and technical questions.

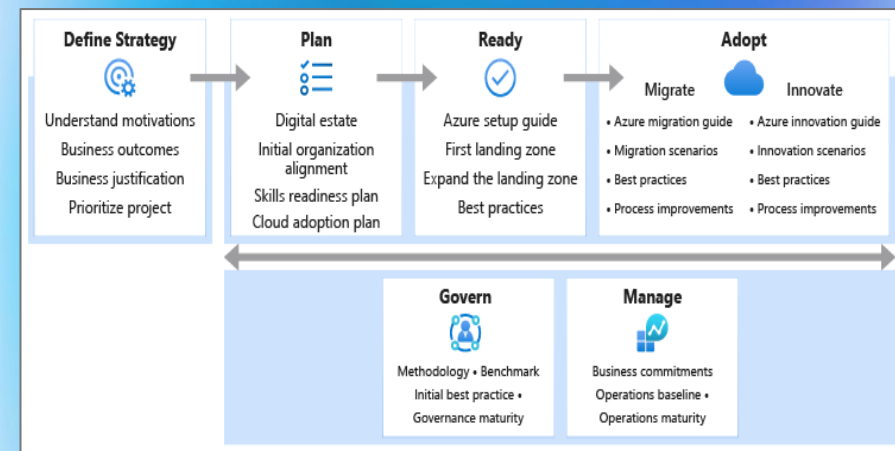# Partnering with Microsoft on Modernization Assessment

- Wipro conducts Legacy Modernization Assessment (LMA) workshop and/or interviews with stakeholders
- Combine the strengths of Wipro's DEEP assessment framework and Azure's Cloud Adoption Framework assessment
- LMA Questionnaire with around 100 questions survey covering Customers As-Is, current challenges, future goals and To-Be understanding
- Deliver comprehensive recommendation covering Modernization roadmap, Business case and ROI, Execution plan

Value Delivery | Project Success | Quick Wins | Defining MVP | RoI Threshold | Critical Success Factors

Wipro's DEEP Modernization assessment framework

Microsoft Cloud Adoption Framework for Azure (CAF)

While CAF focus more on Technical Capability, Defining Architectural Tenets and Solution Principles and validating the Target Fitment will be focused on DEEP assessment framework

Wipro's experience, scale and ingenuity deliver faster results

3,200+
Legacy modernization technology experts

200+
Active AD/AMS Maintenance and Modernization engagements

40+
Solutions and Frameworks

18,000+
Cloud Certified professionals

50+
Mainframe Modernization technology partners and strategic alliances

250,000+
MIPS Modernized

ISG imagine your future®

Everest Group®

HFS

Leader 2023 - 2025 ISG Provider Lens TM Mainframe –Services and Solutions

Leader 2024 Mainframe Services PEAK Matrix

Market Leader 2025 in Legacy Application Modernization

Why Wipro?

Get comprehensive solutions

We cover APR, technology and business led modernization, addressing all modernization requirements

Get proven experience

Excellent track record and reference in executing large scale transformation engagements in large enterprises

Get deep expertise

Expert application modernization and GenAI based Automation to accelerate your modernization journey.

Get the confidence of de-risked modernization

We mitigate every risk from loss of knowledge, to avoiding disruption.

250K+
MIPS

3,200+
Legacy modernization technology experts

$25M
saving over 2 years +

75%
cycle time reduction

wipro

Case in point:

Mainframe modernization for a leading for-profit American health insurance company

Domain Driven Design | Data Offload to Cloud | Microservices and containerized based architecture. | UI Modernization

Challenge

- Portfolio Landscape (Service Funds)
- Highly critical, complex & tightly coupled mainframe apps
- Proprietary COBOL language with significant volume of data managed on DB2 and VSAM.
- Need for Single view of Participant
- Partners demanding for API's
- Lack of agility and time to market
- Limited enhancement opportunities and releases per year, due to monolithic nature of applications and lack of test automation

Solution

- .Net core based high-performance application deployed with Azure native services. Implemented Microservices architecture for claims processing
- Containerized code as webapp for hyper-scaling
- Architecture and design evolved multiple times with agility in meeting client's target env. expectations
- Microsoft partnership was evident in securing architecture guidance, initial POC Azure instance and licensing support, which played a key role

Results

- **58.7M** records processed in 95 min. with **96%** record accuracy for estimated **~25%** lower infra cost
- Leveraged Wipro as well as Customer Azure environments for Webapps, Azure SQL, Databricks, ADF, DevOps, Key Vault, App Insights, Logic Apps, Functions
- Updraft Dcode was used in extracting business rules gaining ~30% efficiency over manual efforts

Case in point:

Mainframe modernization for a multinational investment bank and financial services company

AI-powered | Knowledge Transformation | Microservices and containerized based architecture | Automated Testing

Challenge
- Portfolio Landscape (Wealth Management)
- Highly critical, complex & tightly coupled mainframe apps
- COBOL language with significant volume of data managed on DB2 and VSAM.
- Need innovative GenAI solution to exit mainframe in 3-5 years horizon
- Lack of agility and time to market
- Limited enhancement opportunities and releases per year, due to monolithic nature of applications and lack of test automation
- Other Sis presenting traditional options

Solution
- GenAI based differentiated solution to showcase:
- Persona based knowledge documentation - for BA, Developers, Data architects and Testers
- Decompose monolith COBOL to Enterprise grade Java microservices
- Automated approach to create and test functional equivalence
- Strategic Microsoft partnership to implement this on Azure

Results
- Wipro GenAI tools established 50% productivity in knowledge transformation, **40%** in decomposition and **100%** test coverage
- Smart Impact analysis, Increased significant developer productivity, and reduction of SME dependency
- Leveraged Wipro as well as Customer Azure environments, ADF, DevOps, Logic Apps, Functions

Thank you.