



Intelligent Automation for SAP Transformations

How Automation De-Risks Custom Code
Modernization:

ASUG Research, Solutions, & Real-World Results

About Me

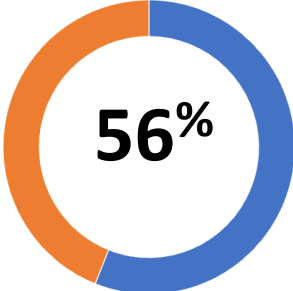
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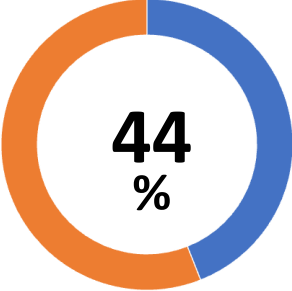


Custom Code is Needed

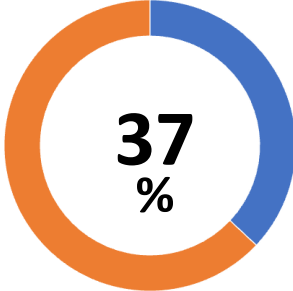
ASUG Research Findings



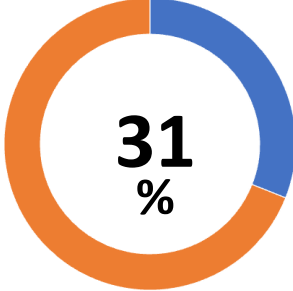
Industry specifics not covered by SAP Standard



Necessary to connect systems



Necessary due to regulatory requirements

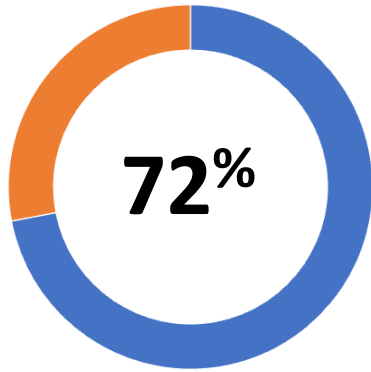


Essential due to localization or different geographies

Source: smartShift/ASUG Market Research

Custom Code Remains Critical

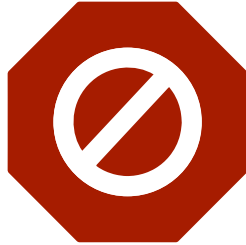
As customers upgrade their SAP systems, they'll need to remediate and transform their custom code



The majority of survey participants plan to retain their custom code as they proceed with upgrading to S/4HANA and beyond

Q. As your organization moves forward with SAP S/4HANA or other SAP system upgrades, how will your organization's custom code be handled? (Please select all that apply.) (n=177)

Custom Code Presents Challenges for Modernization



Barrier to upgrading/
migrating to a new
SAP offering

58%



Difficulty finding expertise
to maintain/enhance
custom code

37%

Source: smartShift/ASUG Market Research

Automation Offers Modernization Options



Speed

Accelerate the transformation process by **minimizing the need for manual remediation**



Confidence

Enhance the overall **quality, security, and stability** of the transformed code



Productivity

Eliminate the need for **business disruption**



Innovation

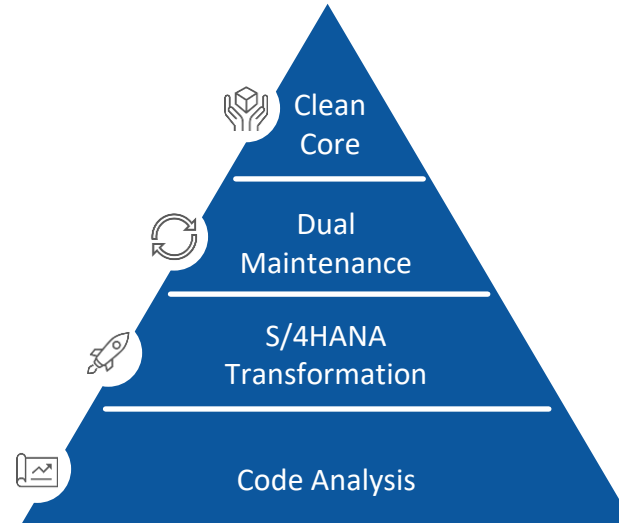
Modernize the system to be more **flexible, scalable, and agile**



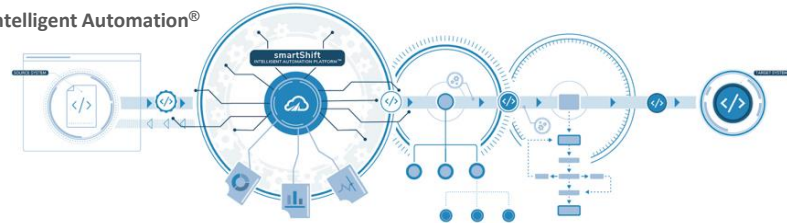
- The only Intelligent Automation for SAP Custom Code Transformations
- 11 Patents - 10+ years of SAP ABAP Research & Development
- 3000+ Successful SAP Transformation Projects
- 3.5+ Billion lines of Code Remediated with 99.99% Code Transformation Accuracy



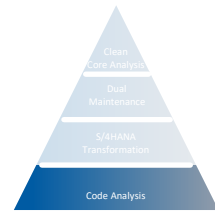
At smartShift, we develop and deliver automated solutions to accelerate business growth and de-risk the transformation of SAP custom code and applications.



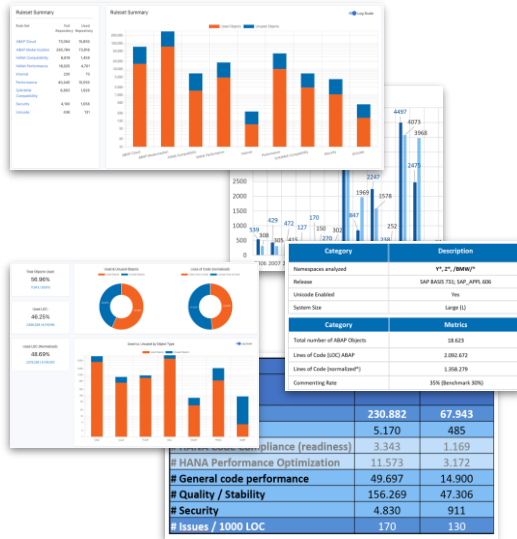
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Code Analysis



Code Analysis



What it delivers:

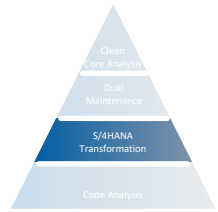
- Complete ABAP repository analysis: HANA, S/4HANA, Unicode, Stability, Security, Usage, and Optimization (250+ intelligent rules)
- Landscape comparison analysis for each landscape
- Outputs: Code decommissioning insight, reporting of categorized issues, simplification insight, data-driven plan for realizing end-state

Why it matters:

- De-risk w/data-driven planning. Know all changes for S/4HANA upfront & plan with confidence.
- Ensure version discrepancies between environments are identified and corrected.
- First step to realize guaranteed compatibility & comprehensive optimization of the code repository.

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Code Transformation



Code Transformation

```
SELECT * FROM <any table>
WHERE <boolean> = <boolean>
AND <boolean> = 'X'
AND <boolean> IN <boolean>
AND <boolean> NOT <boolean>
OR <boolean> NOT <boolean>
OR <boolean> NOT <boolean>
OR <boolean> NOT <boolean>
```

```
...
SELECT * FROM <any table>
WHERE <boolean> = <boolean>
AND <boolean> = 'X'
AND <boolean> IN <boolean>
AND <boolean> NOT <boolean>
OR <boolean> NOT <boolean>
OR <boolean> NOT <boolean>
OR <boolean> NOT <boolean>
```

Before code

```
form converts_unused using f_tst f_unide f_codprod
changing v_pesolq.
```

After code

```
form converts_unused using f_tst TYPE 'J' INFLIN=HEMGE f_unide TYPE 'J' INFLIN=HEIN f_codprod
TYPE PARA=MATU "Smart: #105 #027
changing v_pesolq LIKE v_pesolq. "Smart: #105
```

Before code

```
SELECT KNMVF KPSOH KSCHL KHEKT KXURS
INTO CORRESPONDING FIELDS OF TABLE IT_KOVV
FROM KOVV
FOR ALL ENTRIES IN IT_VBRK
WHERE KNMVF EQ IT_VBRK-KOVVF
AND KHEKT NE 0.
```

After code

```
SELECT KNMVF, KPSOH, KSCHL, KHEKT, KXURS "Smart: # 232
FROM V_KOVV_CDS "S smart: # 630
FOR ALL ENTRIES IN BOT_VBRK "S smart: # 110 # 232
WHERE KNMVF EQ @ GT_VBRK-KOVVF "S smart: # 110
AND KHEKT NE 0
INTO CORRESPONDING FIELDS OF TABLE @OT_KOVV. "REC CI_MOORDER" "S smart: # 110 # 232 # 600
```

What it delivers:

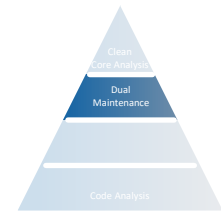
- Comprehensive, automated transformation of ABAP: HANA, S/4HANA, Unicode, Stability, Security, and Optimization (250+ intelligent rules)
- Unused code decommissioned
- Version alignment within each landscape - right version, right place
- Modification adjustment (SPDD/SPAU/SPAU_ENH)
- Outputs: All code transformed and posted to designated transport in the target environment, full audit and before/after reports

Why it matters:

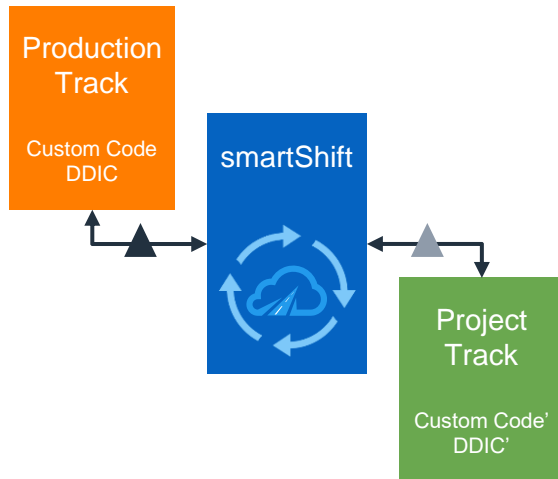
- Comprehensive transformation and optimization, not limited
- Guaranteed quality - 1,000X better than manual approach
- Guaranteed compatibility - full coverage, all severities, best practice
- Timeline acceleration, protection, and risk reduction
- Elimination of technical debt/obsolete code, plus future-readiness
- Secure, stable, & optimized, not just compatible
- Cost certainty

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smartShift Intelligent Automation[®]

Automated Dual Maintenance



Dual Maintenance Automation



What it delivers:

- Automated comparison, merge, and upgrade compatibility (e.g. ECC → S/4HANA) for ABAP & related DDIC
- Integration with change management (ChaRM, Active Control, Rev-Trac, etc.)
- Delivered to SLA committed cycle frequency & capacity
- Outputs: Merged, compliant code in transport in target, transports and issues processing reports, change management integration

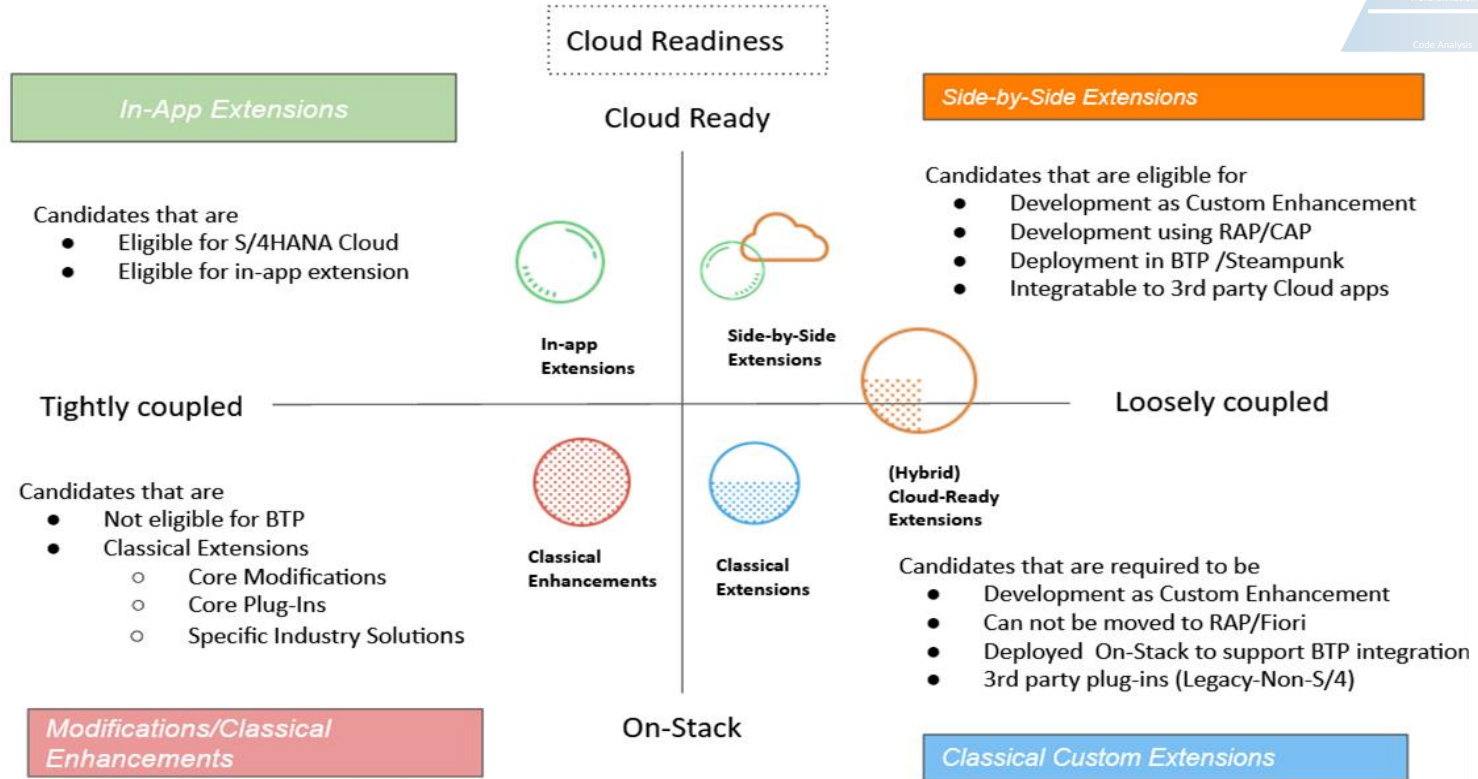
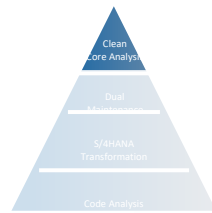
Why it matters:

- Solves the difficult challenge of ABAP dual maintenance, especially for S/4HANA and complex scenarios
- Enables continued business agility and innovation - development restrictions, prolonged code freezes no longer necessary
- Protects development teams and maintains strategic focus
- Program timeline, quality, and risk managed

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Clean Core Analysis

Informed feasibility, design, approach, and planning for application modernization.



S/4HANA Customers

Trusted solutions for the largest SAP customers in the world



- S/4HANA migration factory for 80+ system landscape
- Automation for S/4HANA, security, standardization, and performance
- Agile, sprint-based methodology
- To date:
 - Over 60 projects completed
 - 10MM+ LoC, 100k+ objects remediated
 - Over 7MM EUR saved

JABIL

- ECC to S/4HANA
- 46K custom ABAP objects
- Dual Maintenance automated with smartShift Retrofit
 - Critical enabler of agile continuous development & test process



- Multi-wave ECC to S/4 rollout
- 42K custom ABAP objects / 3.5MM lines of code
- Transformation and optimization
- Selective data/carve-out approach
- Automated Dual Maintenance with smartShift Retrofit ensuring continuous alignment EEC to S/4HANA



- Automation for 200k custom ABAP objects. Manual approach not feasible.
- 9 system consolidation to 3 templates + S/4HANA conversion
- Strategic development partner
 - Automated Interface Identification
 - Dual Maintenance
 - App Modernization

smartShift Overview - Global Customers



smartShift Advantage

“smartShift works at industrial scale with virtually no errors. The defect rate is so low because they have automated everything and reduced the human touch as much as possible.”

Dilip Kumar

Global Supply Chain Platform Architect, Procter & Gamble



Call to Action

Test drive our analysis capabilities

A free custom code health check to gain insight into your SAP modernization roadmap



