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Single Day Events

CHENNAI, INDIA

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BRIDGING LEGACY AND INNOVATION

Navigating the
Challenges of Code
Migration

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ACL Digital | **Life Sciences**
an ALTEN group company



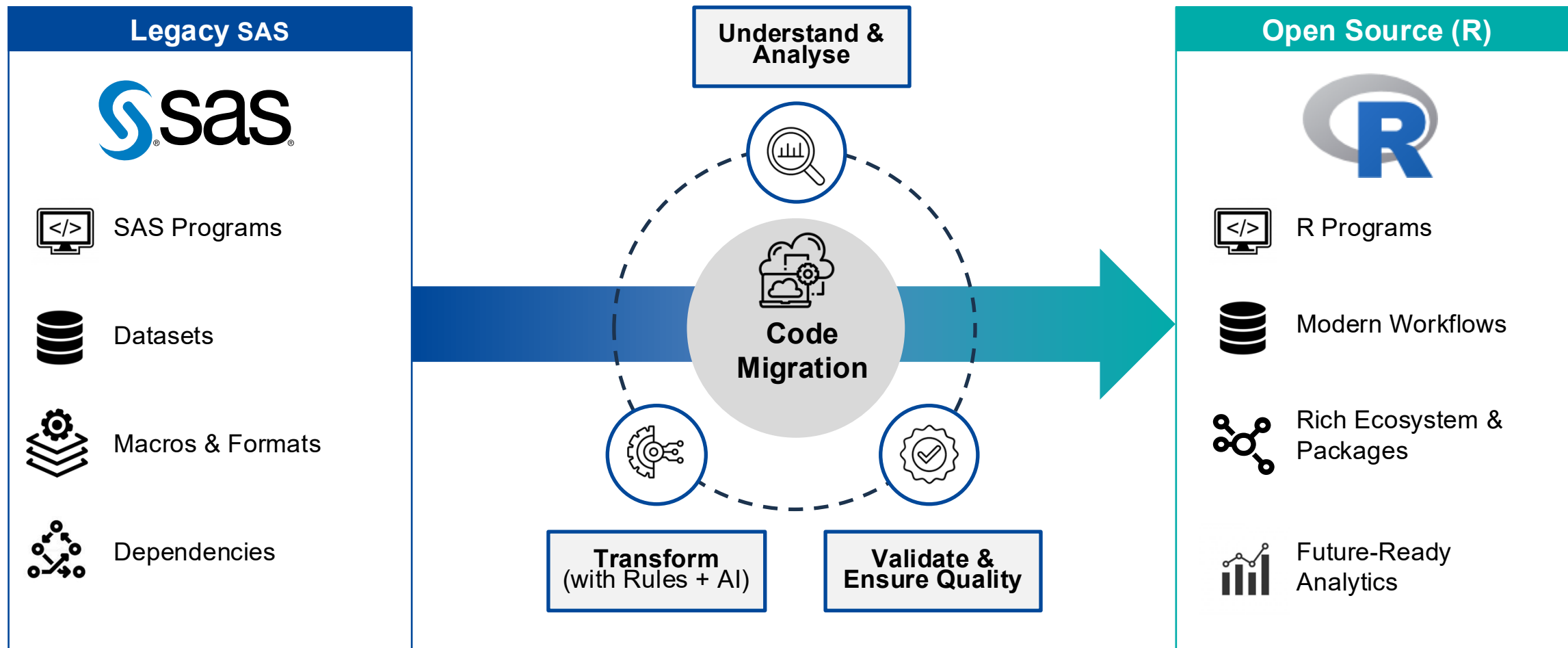
Why Migrate Code?

**Is code migration really just a
language change?**



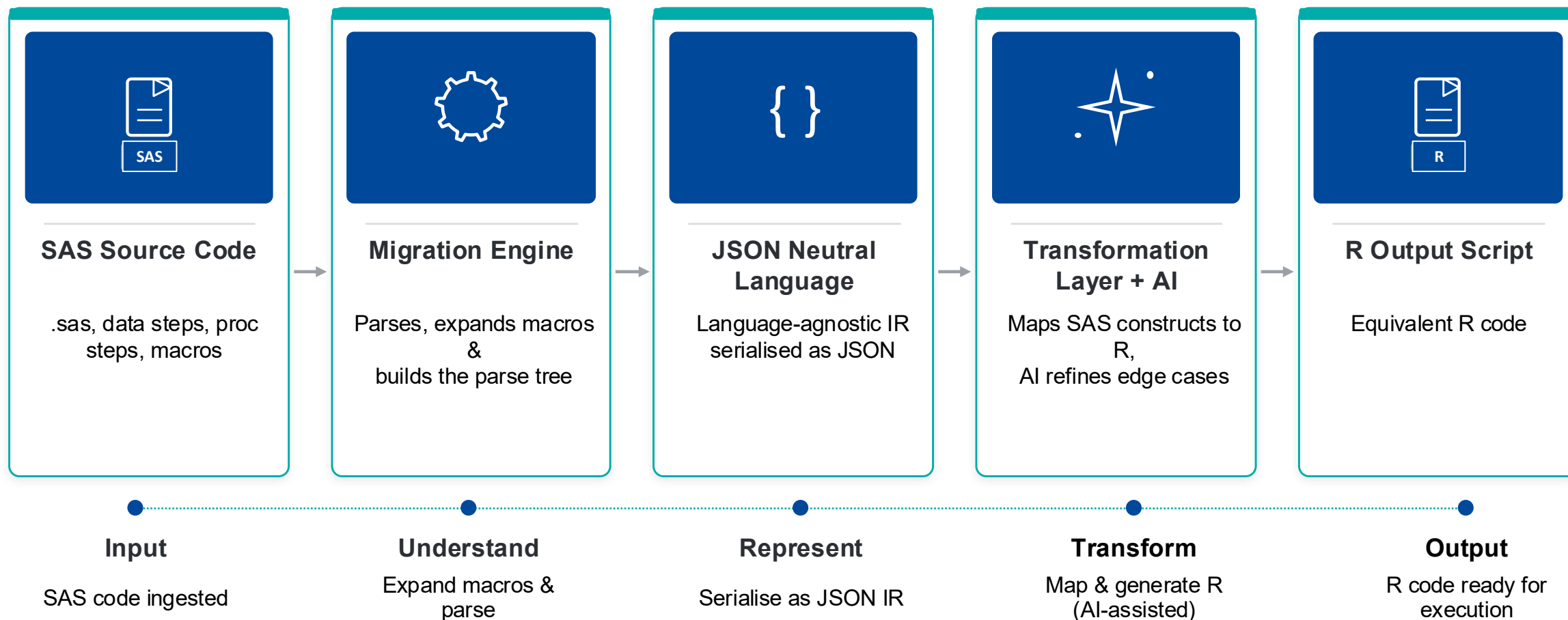


Solution: SAS to R



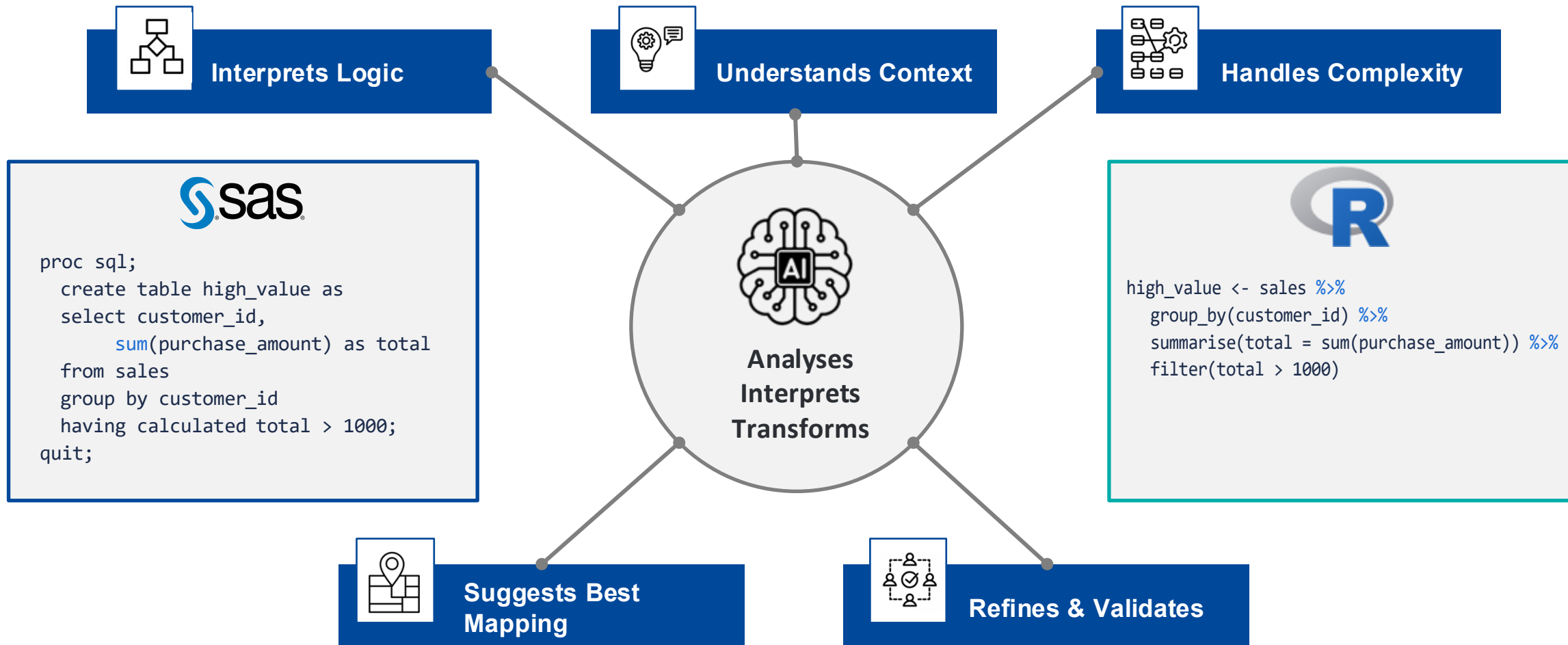


SAS to R – Architecture Overview





Role of AI





Migration Matrix

SAS Files	Data Step	PROC SQL	Macros	PROC SORT	PROC FREQ	PROC REPORT	PROC PRINT	Others	Total
Adtte.sas	3	2	1	1	0	1	1	0	9
ae.sas	5	1	2	0	1	1	0	1	11
cm.sas	2	3	1	1	1	0	1	0	8
dm.sas	4	2	3	1	0	1	1	1	13
lb.sas	6	4	2	2	1	1	0	1	17
vs.sas	1	1	1	0	0	0	1	0	4
le.sas	2	1	4	1	0	0	0	1	9
Rs.sas	3	2	1	1	1	1	1	0	10
Total	26	16	15	7	4	5	5	4	81



Challenges & Mitigation Strategies

Challenges	Mitigation
Loss of functional equivalence	Rigorous parallel testing and output reconciliation
Complex transformations	Deterministic rules for known mappings + AI assistance for contextual cases
Data incompatibility	Structured data mapping and transformation frameworks
Performance degradation	Performance benchmarking and optimization sprints
Hidden dependency	Building a dependency graph: Program -> Macro ->Dataset -> Format -> Output
Inconsistent coding practices	Standardize code patterns and apply reusable transformation rules



Validation and Evaluation

Evaluation Dimensions

01

Code-level checks
- syntax /
structural review

02

Dataset
comparison -
record counts,
variables, derived

03

Output
comparison -
tables, reports and
key results

04

Execution
evidence - logs,
warnings and
errors

05

Statistical
comparison -
relevant analytical
results



Target industries where migration helps

01



Life Sciences

Drug development,
clinical research and
regulatory submissions

02



Banking & Financial Services

Risk management,
regulatory reporting and
financial analytics

03



Healthcare

Better patient care,
operational efficiency and
real-world analytics

04



Manufacturing

Process optimization,
quality management and
supply chain analytics

05

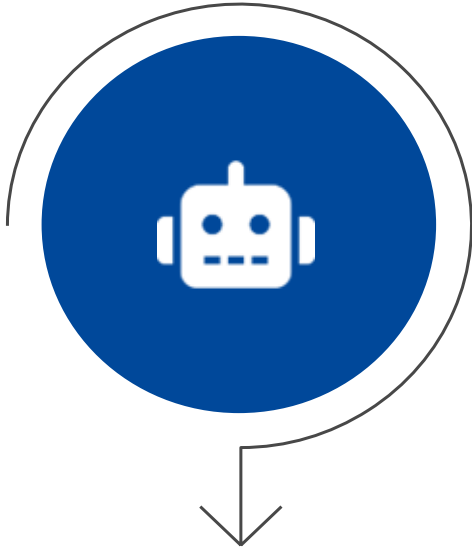


And Beyond

Any industry with legacy
code



Future Outlook: Long-Term Impact



**Scale migration
automation**



**Enhance AI-driven
understanding**



**Establish evidence-
based validation**



**Enable enterprise-ready
modernization**



Key Takeaways

01

Code migration is a strategic enabler, not just a technical exercise

02

AI works best with structured migration

03

Validation builds confidence

04

Modernization must be evidence-driven

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THANK YOU!

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