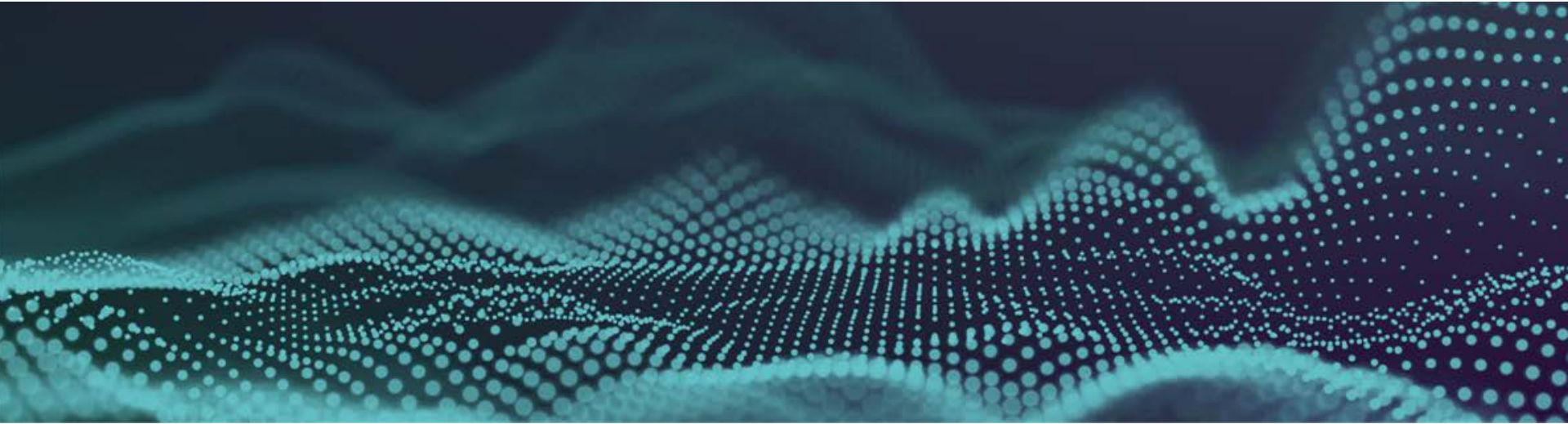




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## VTL engine services for BIRD testing

---

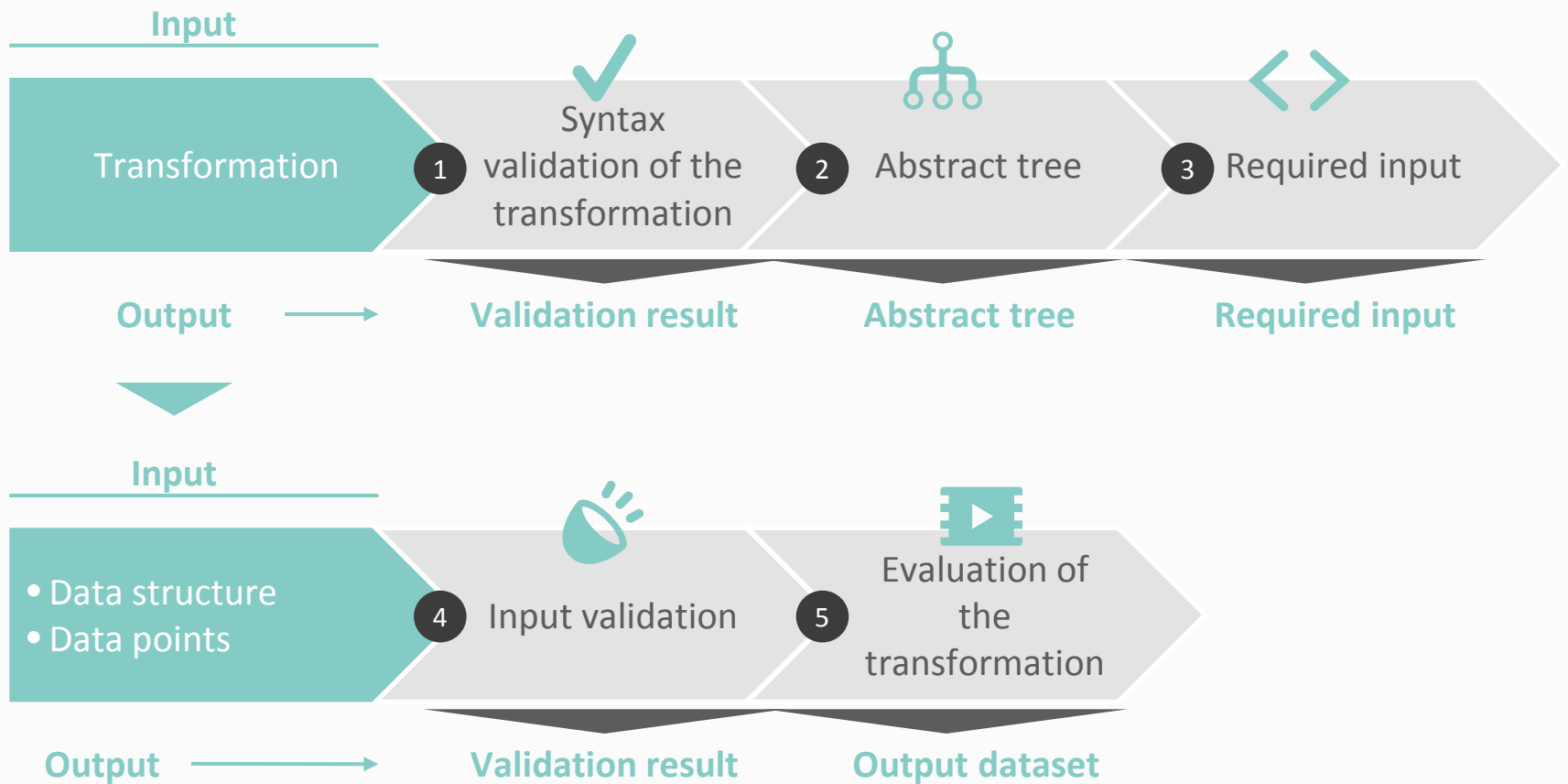
**BIRD Workshop – 24 September 2018**

# Objective

An engine for **BIRD testing**.

-  Introducing the main services of the VTL engine that will support the BIRD testing activity
-  Illustrating the services with examples

# Evaluation of one transformation



# An example ...

A := B[filter var1="abc"]

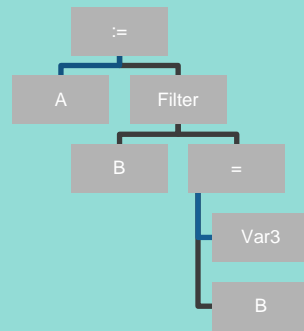


1 Syntax validation

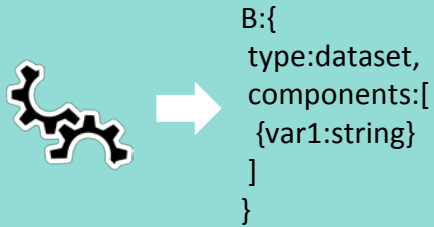


Errors: 0

2 Abstract tree



### 3 Required input



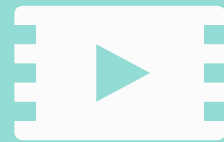
DataSet dataset B		
code	role	dataType
id1	i	int
var1	m	str
var2	m	num

id1	var1	var2
1	abc	100
2	def	150
3	abc	200
4	zzz	250
5	xyz	300



### 4 Input validation





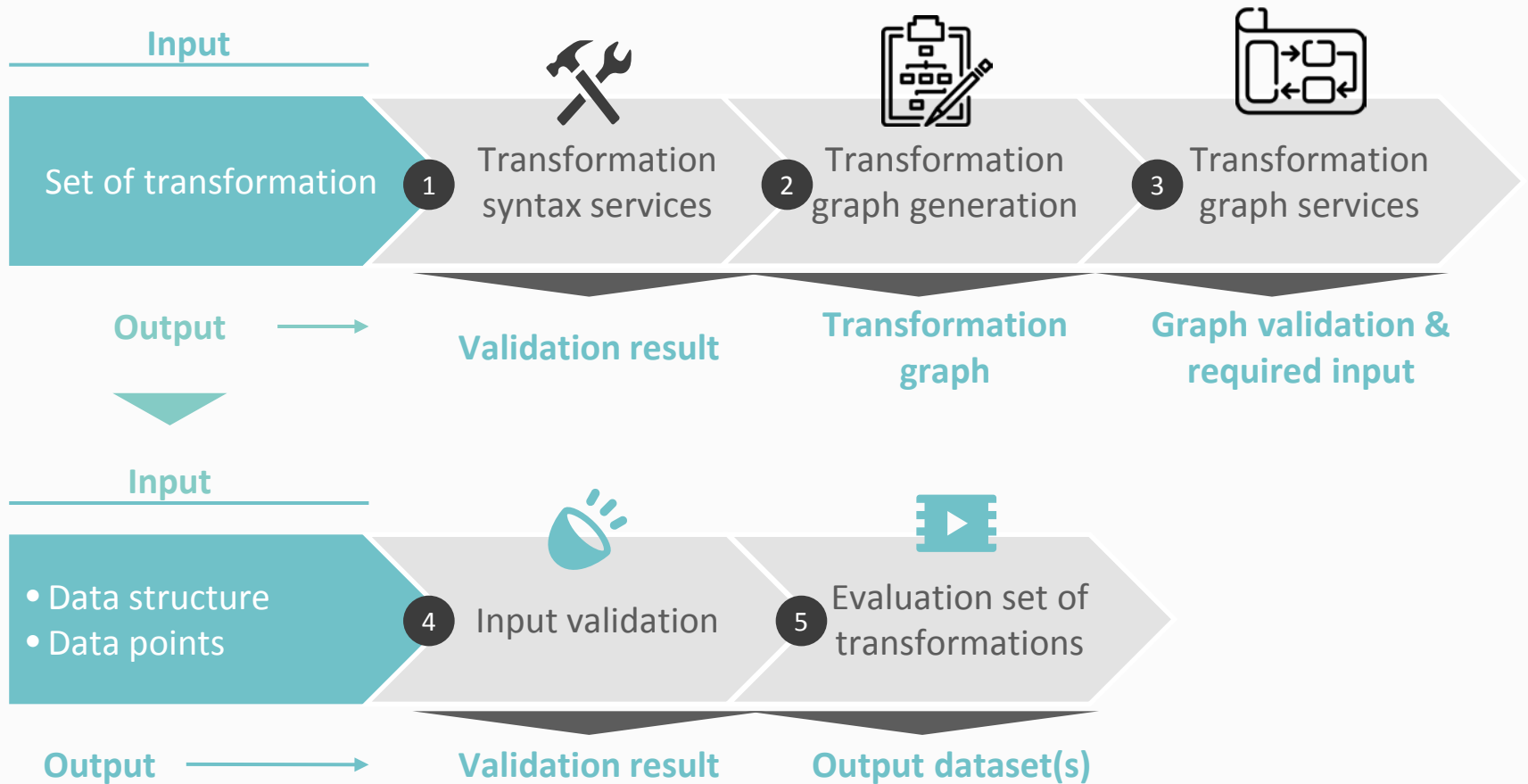
## 5 Evaluation of the transformation



DataStructure dataset A		
code	role	dataType
id1	i	int
var1	m	str
var2	m	num

id1	var1	var2
1	abc	100
3	abc	200

# Evaluation of sets of transformations



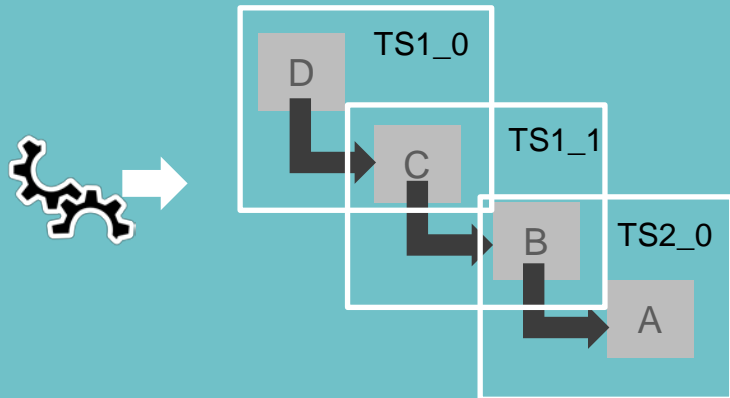
# Set of transformations example ...

Two transformation schemes

TS1  $\left\{ \begin{array}{l} 0 \text{ C} := \text{round}(\text{D}\#\text{var2}, 0); \\ 1 \text{ B} := \text{C}[\text{keep var1}, \text{var 2}]; \end{array} \right.$

TS2 A := B[filter var1="abc"];

## 2 Transformation graph generation



## 1 Transformations syntax services



Errors: 0



```

D: {
  type: dataset,
  components: [
    { var2: number }
  ]
}

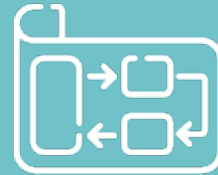
c: {
  type: dataset,
  components: [
    { var1: ? }, { var2: ? }
  ]
}

B: {
  type: dataset,
  components: [
    { var1: string }
  ]
}

```



### 3 Transformation graph services



Transformation flow  
errors: 0  
Required input for  
the flow:



```
D: {  
  type: dataset,  
  components: [  
    { var2: number },  
    { var1: str }  
  ]  
}
```

### 4 Input validation



Errors: 0

DataSet dataset D		
Code	role	dataType
Id1	i	int
var1	m	str
var2	m	Num
Var3	M	int

id1	var1	var2	var3
1	abc	100,15	2
2	def	150,25	4
3	abc	200,12	2
4	zzz	250,19	7
5	xyz	300,43	11



## 5 Evaluation set of transformations

DataStructure dataset C		
Code	role	dataType
ld1	i	int
var1	m	Str
var2	m	num
var3	m	int

id1	var1	var2	var3
1	abc	100	2
2	def	150	4
3	abc	200	2
4	zzz	250	7
5	xyz	300	11

C := round(D#var2, 0)

DataStructure dataset B		
Code	role	dataType
ld1	i	int
var1	m	Str
var2	m	num

id1	var1	var2
1	abc	100
2	def	150
3	abc	200
4	zzz	250
5	xyz	300

B := C[keep var1, var 2]

DataStructure dataset A		
code	role	dataType
id1	i	int
var1	m	str
var2	m	num

id1	var1	var2
1	abc	100
3	abc	200

A := B[filter var1="abc"]

# Additional considerations

## VTL 2.0

The BIRD transformation rules have been written following the VTL 1.1 specification, while the engine is designed for VTL 2.0. Thus, a previous translation work is required

## Conventions

The BIRD is using some conventions outside the VTL standard that will be considered for the testing engine



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Thank you for your attention!

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