



## Corporate Presentation January 2019



Transforming Molecular information into action

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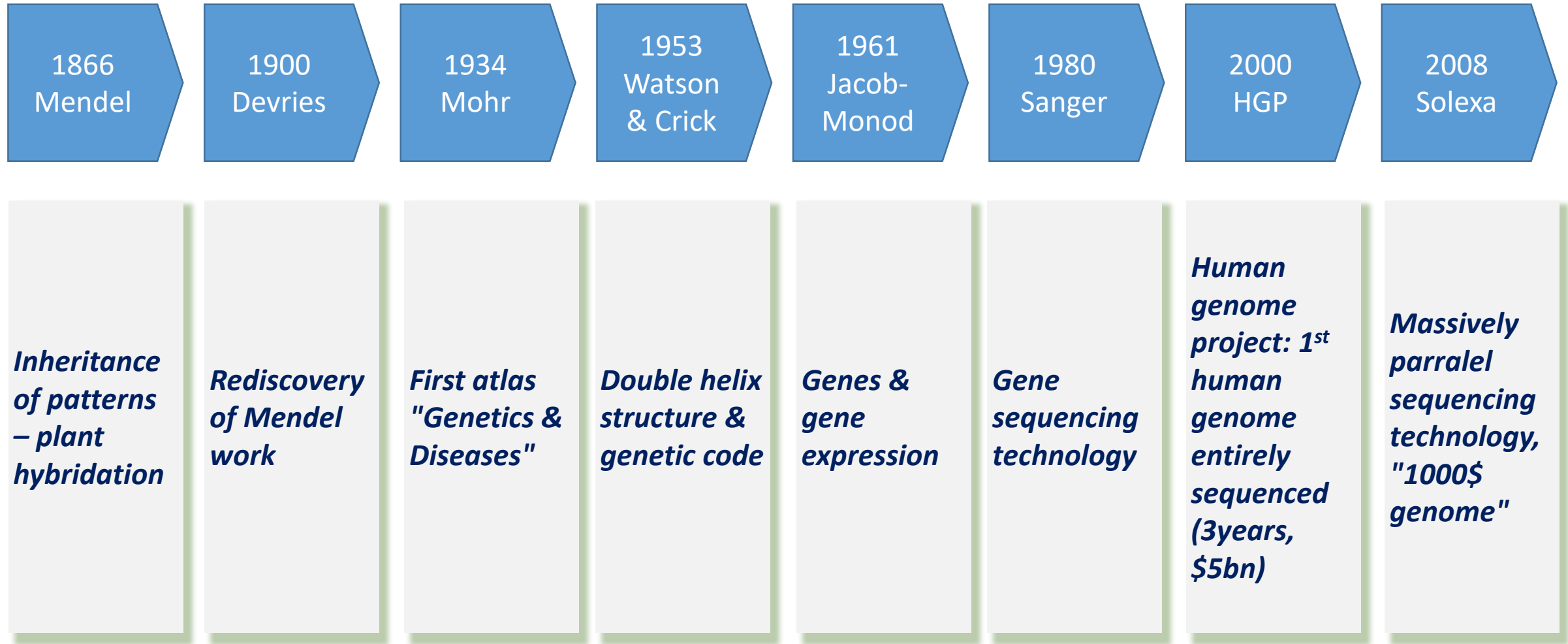
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# 150 years of genetics at a glance



# IntegraGen at a Glance



## Description

- Public offering on Euronext Growth in 2014
- 2017 Revenues: €6,4m
- HQ in Evry's Genopole, offices in Paris & Cambridge (Mass, US)
- 40 employees

## Executive Management



**Bernard Courtieu, DVM, MDA**  
CEO



**Laurence Riot-Lamotte**  
CFO



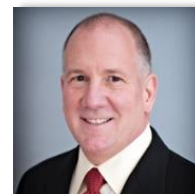
**Bérengère Genin**  
Head of Bio-IT



**Emmanuel Martin, R.Ph.**  
VP, IntegraGen Genomics



**Catherine David**  
Quality director



**Larry Yost, RPh**  
GM, IntegraGen Inc.

# IntegraGen: What we do

## Genomics

### Large scale sequencing services

#### Researchers

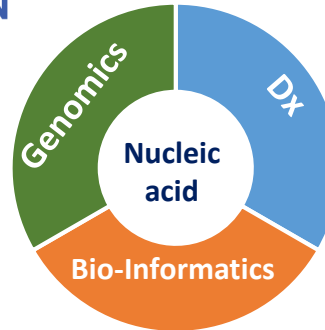


#### Clinicians



**INTEGRAGEN**  
GENOMICS

- DNA & RNA sequencing
- Transcriptomics
- Epigenomics
- SNP genotyping
- Advanced Bio-informatics consulting



**INTEGRAGEN**  
Clinical Genomics Experts

- Biomarker identification
- Advanced bio-statistics
- Companion Dx in CRC & lung cancer

## Diagnostics

### IVD diagnostic kits

miR-31-3p

**miRpredX**



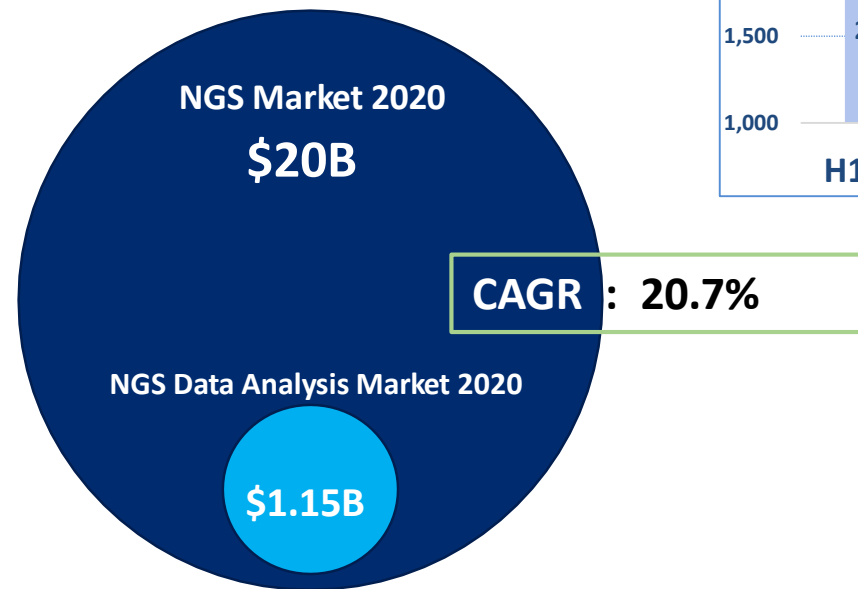
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**INTEGRAGEN**

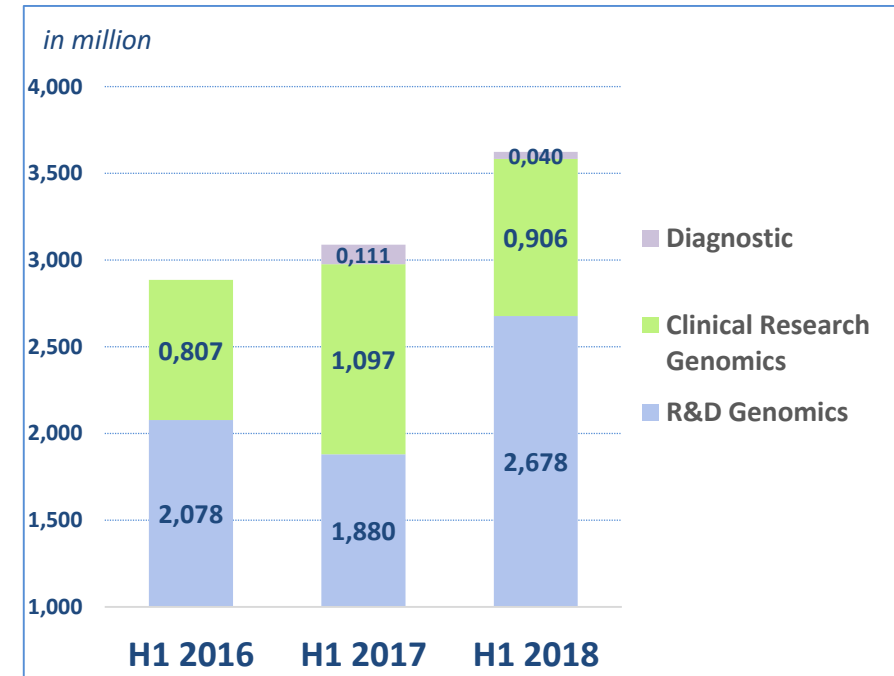
# IntegraGen, key figures & potential markets

Employees	44
Rev 2017 / H1 18	6,3 m€ / 3,7 m€
Cash burn 2017 / H1 18	2,1 m€ / 0,8 m€
Cash Dec 31 <sup>st</sup> 2017	4,1 m€

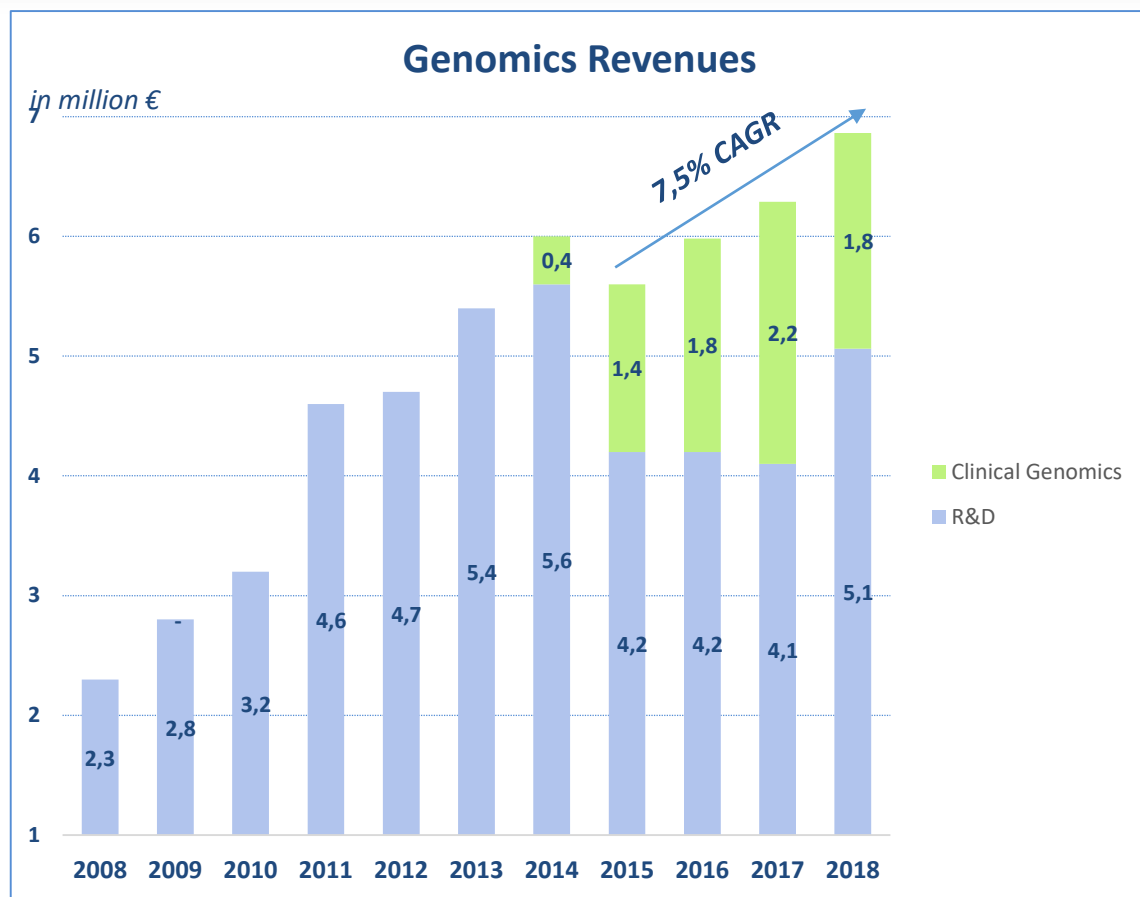
T.A.M. Diag (31-3p mCRC)	120 m€
T.A.M. Genomics	20 bn \$
T.A.M. Software	1,15 bn \$



## IntegraGen Revenues – H1 2016 – H1 2018



# Business switch has shown recovery since 2015



*In K euros*

	2018	2017	2016
Genotyping	248	337	421
Sequencing	4 334	3 523	3 651
Geco	210	220	169
Software	261		
<b>Sub-total R&amp;D</b>	<b>5 044</b>	<b>4 080</b>	<b>4 241</b>
GR	1 002	1 367	1 137
Pasteur	816	671	645
<b>Sub-total Clinical</b>	<b>1 817</b>	<b>2 038</b>	<b>1 782</b>
Dx	90	140	
<b>Total</b>	<b>6 940</b>	<b>6 118</b>	<b>6 023</b>





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# Genomics



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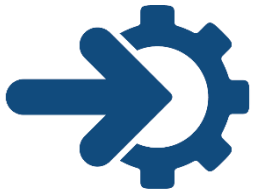




# We provide three levels of Genomic Services



Sequencing with raw data  
output provided to customers



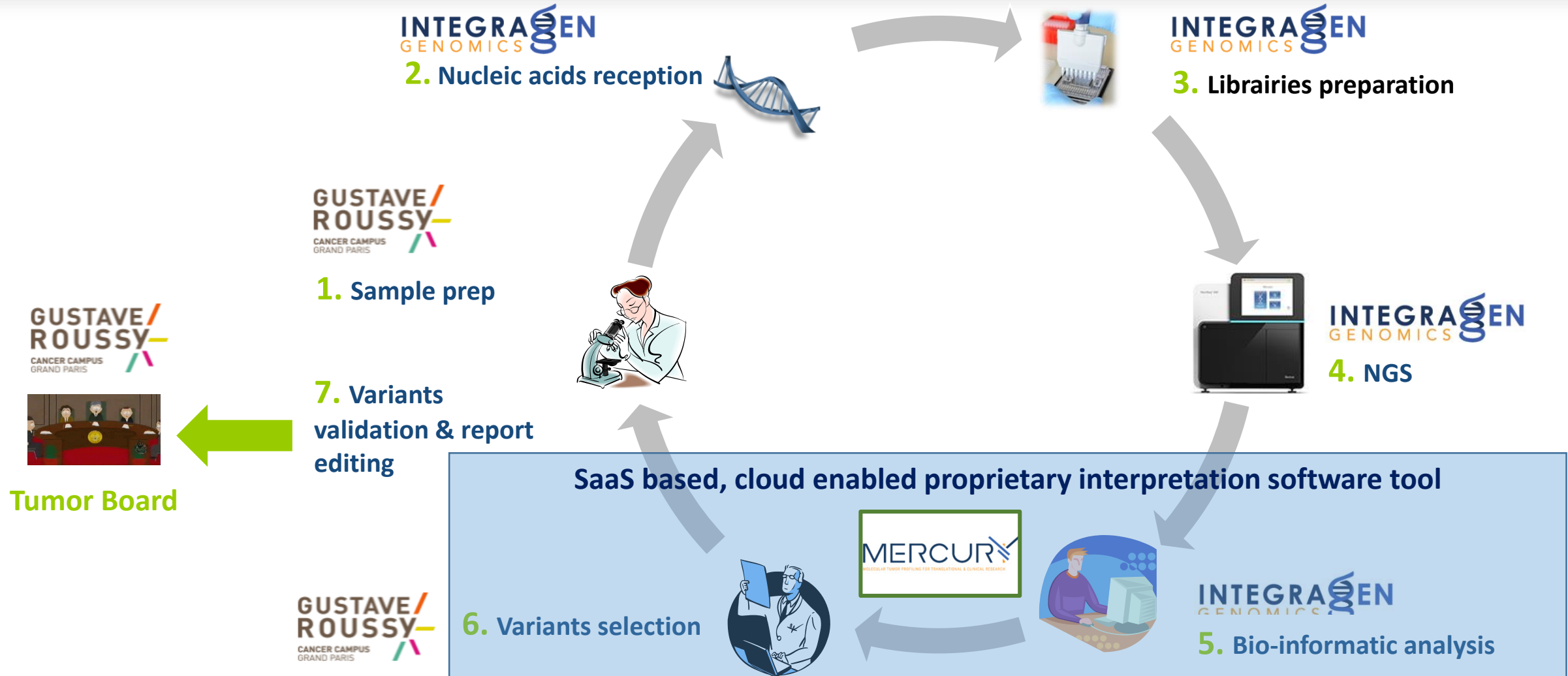
Primary data filtering/analysis  
(including bioinformatic tools to  
support direct analysis by customers)



Detailed data analysis with expert  
biostatistical support



# IntegraGen operates a cancer dedicated, industrial platform that provides integrated sequencing + support to interpretation



# MERCURY: from sequencer to clinical research report

## Sequencing:

- tumoral RNA
- tumoral DNA
- germline DNA



Alignment

Detection

Annotation

Comparison



Clinical Report

Oncobiologist  
Software  
Interface

Pre-  
classification

Clinical  
Interpretation

## Oncologist



# Prioritization of genes and variants with access to numerous databases

**MERCURY** Dashboard General Overview QC Genomic Alteration Clinical Report Patient Mat & Meth

**Variations**

**Hotspots**  
Incidental findings  
Amplifications  
Deletions  
Fusions

**GENE FILTERS**  
☒ Cancer genes  
☐ Incidental findings  
☐ All genes

**VARIANT FILTERS**  
☒ Somatic mutations  
☐ Germline mutations  
☒ Hotspots  
☐ SNP  
☐ Indel  
☐ Gain  
☐ Loss  
☐ Fusions  
☒ Other  
☐ SNP  
☐ Indel

**Potentially drugable**  
☒ Potentially drugable  
☐ None

**Therapeutic in the disease**  
☒ Therapeutic in the disease  
☐ Therapeutic  
☐ Pathogenic  
☐ Benign  
☐ Ambiguous significance  
☐ None

**QC details**

Depth	Variant %	Variant Count	Score
Coestit	66	0%	0
Tumor	103	81.55%	84

**Pathogenicity**

Trust sources :  
ClinVar : 10 entries  
SCV000187024.4 (Pathogenic)  
SCV000504686.1 (Likely pathogenic)  
SCV00060191.4 (Likely pathogenic)  
SCV000211760.1 (Pathogenic)  
SCV000504688.1 (not provided)  
SCV000504687.1 (Likely pathogenic)  
Cosmic : 4 entries  
Sift : deleterious(0)  
Polyphen : probably\_damaging(0.999)

**Other**

Domains : 6 entries  
hmmpantHER PTHR11447  
hmmpantHER PTHR11447-SF8  
Pfam\_domain PF00870  
Gene3D 2.60.40.720  
Superfamily\_domains SSF49417  
Prints\_domain PRO0386  
HGVSs : NM\_000546.5:c.817C>T  
HGVSs : NP\_000537.3:p.Arg273Cys  
HGVSs : chr17:g.7673803G>A

**Frequencies**

IL, normAD, EVS, 1000G EUR, 1000G Global

0% 0%

743 706 659 594

**Clinical Trials**

Show 10 entries

Search:

Title	Status	Country	Localisation	MeSH	NCT ID	Report
The purpose of this study is to determine the recommended Phase II dose of nilotinib when used in combination with cetuximab in the treatment of patients with recurrent and/or metastatic Kras wildtype colorectal cancer or squamous cell carcinoma of the head and neck.	Recruiting	United States	Georgetown Lombardi Comprehensive Cancer Center (Washington)		NCT01871311	

Gene	Variation	HGVSc	# copies	VAF DNA	BAF	VAF RNA	# var RNA	Depth RNA	Variation type	Consequence	Hit	Variant drugs	Gene drugs	Clinical Trials	Infos
TP53	P R273C	NM_000546.5:c.817C>T	1.85	81.55%	10.65%	86.27%	44	51	SNV	missense	15	0	11	31	QC
FGFR3	T S249C	NM_001163213.1:c.746C>G	2.24	82.11%	17.37%	0%	0	0	SNV	missense	3	0	38	7	QC
ABL1	D81N	NM_007313.2:c.241G>A	1.69	66.67%	16.79%	74.07%	20	27	SNV	missense	2	0	35	1	QC
NTRK3	G623R	NM_002530.3:c.1867G>C	1.52	25.49%	35.37%	0%	0	0	SNV	missense	4	0	3	3	QC

# MERCURY Databases:

## Optimized automated bioinformatics pipeline

- Cosmic
- ClinVar
- TCGA
- OMIM
- PUBMED
- GnomAD
- Polyphen
- SIFT
- GENCODE
- HGMD-PUBLIC
- ESP, NHLBI Exome Sequencing Project
- DGIDB
- Uniprot
- DGV

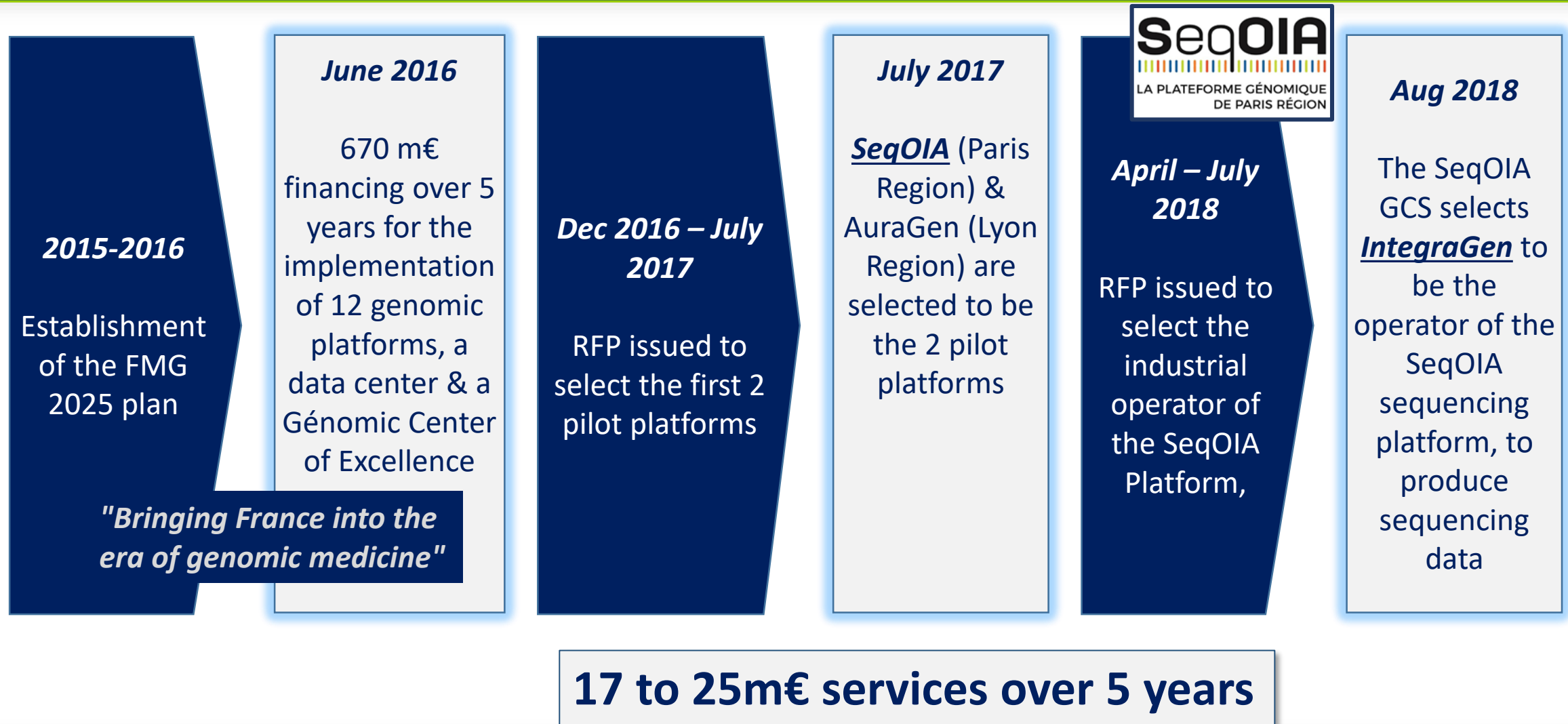
MERCURY also has direct links to the following datasets/database which provide identity cards and annotations for genes of interest:

- Genecards
- Tumor Portal
- Cosmic
- NCBI/PUBMED
- Ace View
- Gene Ontology

### MERCURY incorporates the following genomic databases for fusions:

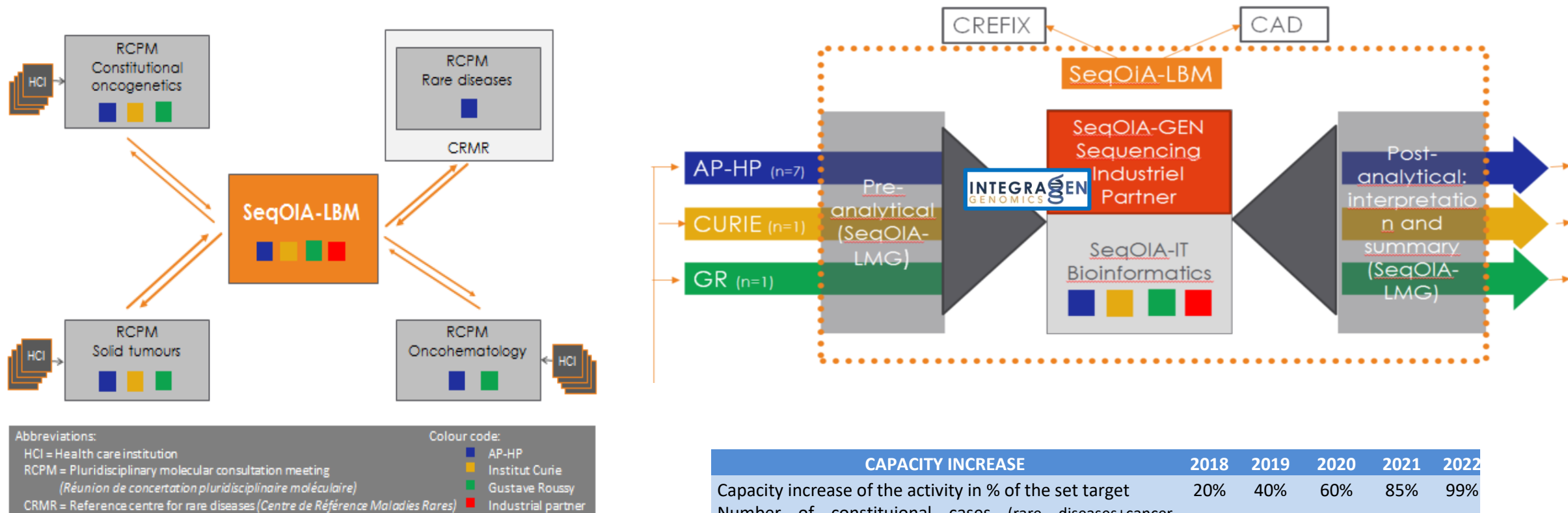
- ChimerDB 2.0 database
- Cancer Genome Project (CGP) database
- The Cancer Genome Atlas
- Fusion genes found in the The Cancer Genome Atlas consortium RNA-seq dataset
- Fusion genes found in a RNA-seq dataset of 272 glioblastomas from the following publication: <https://genome.cshlp.org/content/24/11/1765>
- Fusion genes found in a oesophageal tumors from TCGA samples from the following publication: <https://www.nature.com/articles/nature20805>
- Oncogenes - when one or both genes are a known oncogene according to ONGENE database: <http://ongene.bioinfo-minzhao.org/index.html>
- When one or both genes are associated with cancer according to Cancer Gene database: <http://www.bushmanlab.org/links/genelists>
- When one or both genes are proto-oncogene or tumor suppressor genes according to the UniProt database: <http://www.uniprot.org/>
- Known fusion genes found in pancreatic tumors based on the following publication: <http://dx.doi.org/110.1038/nature16965>
- Known fusion genes found in 150 prostate tumors RNAs from the following publication: <http://dx.doi.org/10.1016/j.cell.2015.05.001>

# IntegraGen and SeqOIA, key contributors of the "France Medecine Génomique 2025" plan





# SeqOIA will manage sequencing for up to 14,000 patients /year, focusing on oncology & rare diseases –



17 to 25 m€ over 5 years for

# IntegraGen Genomics positioning & growth potential

- **Leading private genomic lab in France**
- **Operator of the SeqOIA (Paris Region Regional Genomic Platform) Sequencing platform – 17 to 25 m€ / 5 years**
- **Partner of the leading French institutions**  
(*G. Roussy, Pasteur, AP-HP, SeqOIA*)
- **Able to deliver timely high-quality analysis**
- **Able to industrialize & implement "turnkey" solutions**  
(GR live in 8 weeks, IP in 12)
- **Access to clinical use of results**
  - Onco panels (or exome)
  - Interpretation software
- **Access to other geographies to replicate GR/IP pilot model**
  - South Europe
  - Germany & East Europe
  - UK
- **Launch of genomic interpretation softwares – Mercury and Sirius in Q1 2018**
- **First distribution agreement of the softwares with Twist Bioscience**







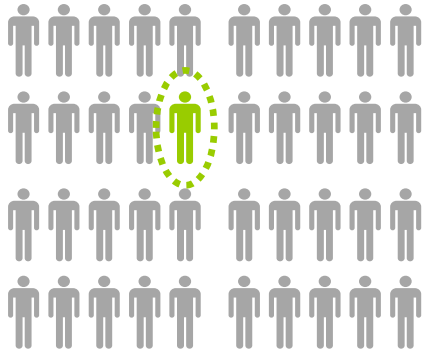
# Diagnostics



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# Targeting the right drug a priori to a specific mCRC patient



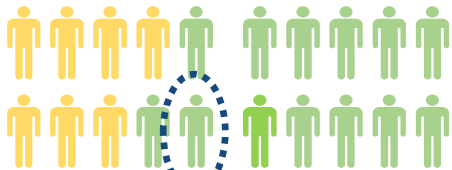
Which targeted therapy to  
add to traditional Chimio  
(Folfox/folfiri)

What is the molecular status of  
a specific patient?

miR-31-3p  
high: 16%

miR-31-3p  
Low 34%

all  
RAS/KRAS  
wild type  
50%



all  
RAS/KRAS  
mutated:  
50%

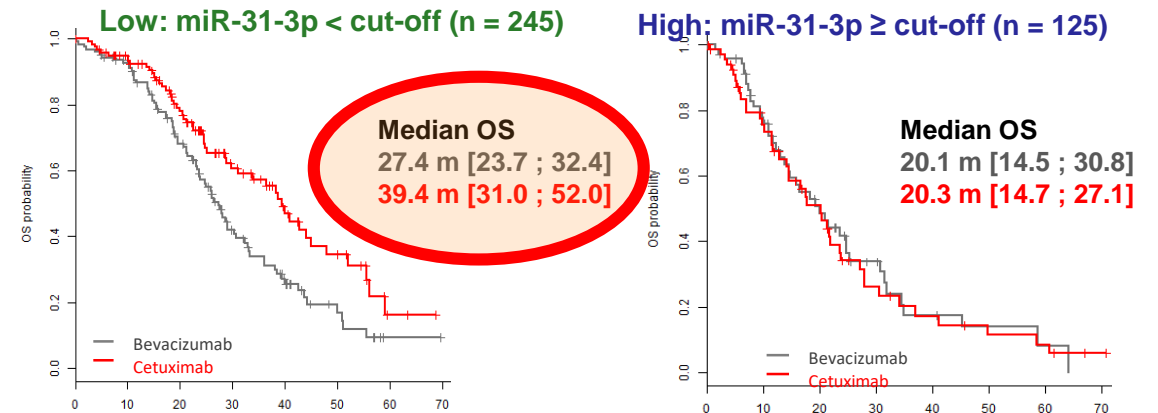


Either  
Avastin /  
Erbtux

Erbtux (Vectibix)  
(12 Months OS  
advantage)

Avastin  
(only available option)

## Analysis of the FIRE-3 samples



12 Months difference at median OS for low expressors or miR-31-3p

Metastatic colorectal cancer (mCRC)  
84,000 annually (US) - 170,000 (EU)



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# Commercialization launched

## Licensing agreement with Cerba Laboratories and GoPath

- **Laboratory developed test marketed in France, Benelux and EMEA**

### Partnership with Cerba allows

- Test availability for all clinicians
- First mover advantage for Cerba
- Revenue sharing agreement



- **Licensing agreement with Gopath for USA and Canada**



## CE – IVD marked kit available

- **In house kit development**
  - Batch manufacturing in dedicated facility in Evry
  - First batch release on Sept 7<sup>th</sup>
  - Ability to commercialize in all geographies recognizing CE-IVD mark
  - Western Europe: 170,000\* new cases of mCRC



**Distribution, coverage and reimbursement are now the next target in line**

\*: Source Globocan



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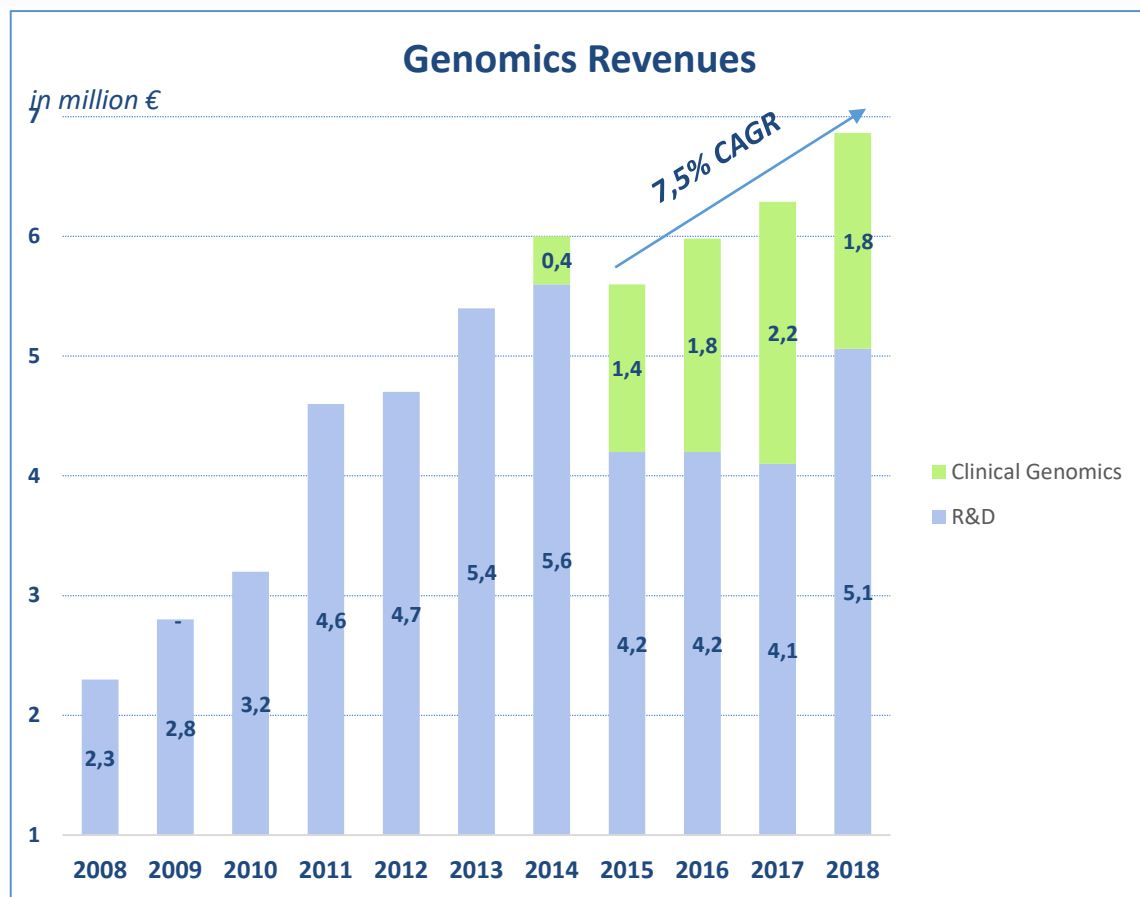




# Financials



# Business switch has shown recovery since 2015



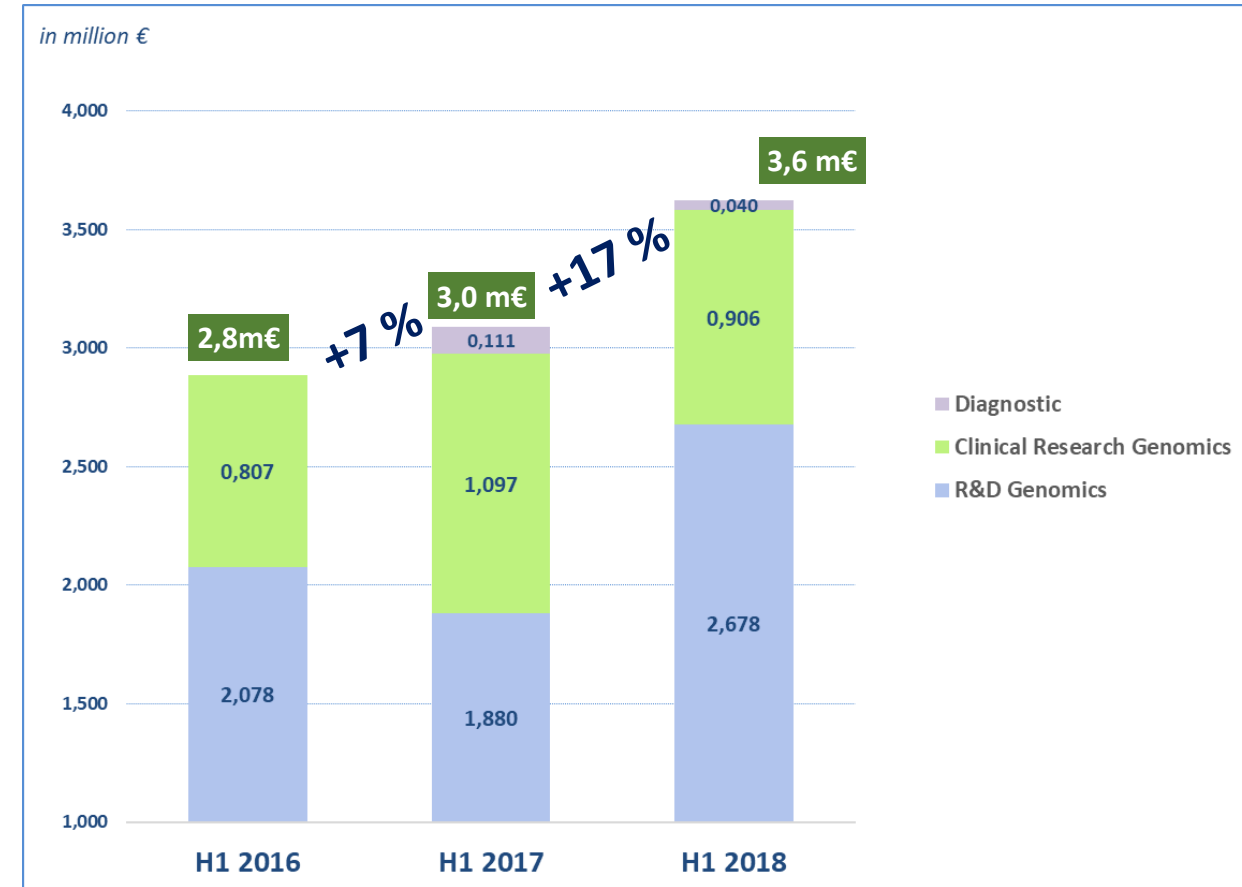
*In K euros*

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# H1 2018 – Revenue growth of 17% driven by R&D Genomics

	H1 2018	H1 2017	2018/2017
Genotyping	201	114	
Sequencing Evry	2249	1 664	
Geco	92	102	
Software	135		
<b>R&amp;D</b>	<b>2678</b>	<b>1 880</b>	<b>+42%</b>
Clinical exome	546	761	(28%)
Pasteur	360	336	+7%
<b>Clinical Genomics</b>	<b>906</b>	<b>1 097</b>	<b>(17%)</b>
<b>Total Genomics BU</b>	<b>3 584</b>	<b>2 977</b>	<b>+20%</b>
<b>Total Diagnostics BU</b>	<b>40</b>	<b>111</b>	<b>(64%)</b>
<b>Total Revenues</b>	<b>3 624</b>	<b>3 089</b>	<b>+17%</b>



Very strong growth of sequencing revenues for R&D customers



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# With a significant improvement of operating profit (+57%) in H1

## P&L

<i>in K euros</i>	H1 2018	H1 2017	Var. %
<b>Sales</b>	<b>3 624</b>	<b>3 089</b>	<b>+17%</b>
Subsidies and other revenues	102	206	(50%)
<b>Total Revenues</b>	<b>3 726</b>	<b>3 294</b>	<b>+13%</b>
<b>Operating costs</b>	<b>(4 264)</b>	<b>(4 542)</b>	<b>(6%)</b>
<b>Operating profit</b>	<b>(539)</b>	<b>(1 248)</b>	<b>+57%</b>
Financial Profit/Loss	(4)	21	
Exceptional Profit/Loss	(104)	498	
Taxes (CIR)	101	249	(59%)
<b>Net result</b>	<b>(545)</b>	<b>(480)</b>	<b>(14%)</b>

← Significant improvement of profitability

← Non recurring BPI debt waiver in 2017

# 2018 & 2019 perspectives

- Strong growth of genomics in H1
  - +17% sales
- H1 detailed financials to be presented on September 21st
  - Expecting significant improvement of revenues & EBIT
- 2019/2023 expectations driven by SeqOIA project
  - Commitment by the State & the GCS to an 18m€ (between 16.4 & 25,5 m€) over 5 years
  - Driving a boost in revenues and an improved profitability situation
- Expecting Dx sales to ramp up in 2019





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# Thank you for your attention

Bernard Courtieu  
CEO  
[bernard.courtieu@integrage.com](mailto:bernard.courtieu@integrage.com)

Laurence Riot Lamotte  
CFO  
[laurence.riotlamotte@integrage.com](mailto:laurence.riotlamotte@integrage.com)

[www.integrage.com](http://www.integrage.com)



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