Roche Diagnostics

Introduction and Business Overview
About Roche Diagnostics

Diagnostics Strategy and Business Model

Financials

Organization and Core Technologies

Personalized Healthcare and Data Management
Roche Clear Leader in Growing IVD Market

Share of IVD sales 2018

Roche: 19%
Abbott: 12%
Danaher: 9%
Siemens: 7%
bioMerieux: 4%
Sysmex: 4%
Becton Dickinson: 3%
Ortho Clinical Dia.: 3%
Thermo Fisher: 2%
Bio-Rad: 2%

Expected IVD market growth

CHF 61bn
- Tissue Diagnostics: 3%
- Molecular Diagnostics: 3%
- Blood Glucose Monitoring: 2%
- Centralized and Point of Care: 2%

CHF 78bn
- Tissue Diagnostics: 2%
- Molecular Diagnostics: 2%
- Blood Glucose Monitoring: 2%
- Centralized and Point of Care: 4%

IVD Market: +5% CAGR
- CHF 61bn: +7% CAGR
- CHF 78bn: +10% CAGR
- CHF 78bn: -4% CAGR

Roche
Abbott
Danaher
Siemens
bioMerieux
Sysmex
Becton Dickinson
Ortho Clinical Dia.
Thermo Fisher
Bio-Rad

Ortho Clinical Dia.
Thermo Fisher
Bio-Rad

2018
2023

3
Diagnostics in a Glance
Diagnostics Division as Part of Roche Group

21% of 2019 Revenue

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of Group Core Operating Profit</td>
<td>9%</td>
</tr>
<tr>
<td>% of Group R&amp;D spend</td>
<td>13%</td>
</tr>
</tbody>
</table>
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Organization and Core Technologies

Personalized Healthcare and Data Management
Roche Diagnostics
Our competitive advantage

Total solution offering

Breadth of technologies
- DNA/RNA-based
- Protein-based
- Cell-based

Comprehensive menu
- Inflammation/Autoimmune
- Virology/Microbiology
- Cardiology
- Oncology
- Women’s health
- Metabolic diseases
- Hematology

IT and workflow connectivity

End-to-end workflow

Platforms (25+)
Software (50+)
Tests (500+)
Calibrators (1000+)
Servicing Clinical Diagnostics Customers
Managing complex product offering and business processes

Roche Diagnostics Customers

- Central lab
- Pathology
- Patients (Self Testing)
- Molecular Lab
- Point of Care

Roche Diagnostics Business Model

Closed Systems
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Personalized Healthcare and Data Management
# 2019: Diagnostics Division sales

**Growth driven by Centralised and Point of Care Solutions and Molecular Diagnostics**

<table>
<thead>
<tr>
<th>Diagnostics Division</th>
<th>2019 CHFm</th>
<th>2018 CHFm</th>
<th>Change in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centralised and Point of Care Solutions</td>
<td>12,950</td>
<td>12,879</td>
<td>1</td>
</tr>
<tr>
<td>Molecular Diagnostics</td>
<td>7,819</td>
<td>7,768</td>
<td>1</td>
</tr>
<tr>
<td>Diabetes Care</td>
<td>2,109</td>
<td>2,019</td>
<td>4</td>
</tr>
<tr>
<td>Tissue Diagnostics</td>
<td>1,104</td>
<td>1,112</td>
<td>-1</td>
</tr>
</tbody>
</table>

CER=Constant Exchange Rates; Underlying growth of Molecular Diagnostics excluding sequencing business: +6%
2019: Diagnostics Division regional sales

*Growth driven by Asia Pacific and Latin America*

- **North America**: 0% of divisional sales; ~25% of divisional sales
- **Latin America**: +12% growth; ~7% of divisional sales
- **EMEA**: +2% growth; ~38% of divisional sales
- **Asia Pacific**: +6% growth; ~27% of divisional sales
- **Japan**: -2%; ~4% of divisional sales

**+7% growth in E7 countries**

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1 Europe, Middle East and Africa; 2 Brazil, China, India, Mexico, Russia, South Korea and Turkey; All growth rates at Constant Exchange Rates (CER)
## 2019: Diagnostics Division highlights

*Growth driven by immunodiagnostics*

<table>
<thead>
<tr>
<th>Segment</th>
<th>YoY CER growth</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Centralised and Point of Care Solutions</strong></td>
<td>+3%</td>
<td>- Immunodiagnostics (+6%; reagents +8%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Decline in coagulation monitoring</td>
</tr>
<tr>
<td><strong>Molecular Diagnostics</strong></td>
<td>+6%</td>
<td>- Blood screening (+7%); Point of Care molecular diagnostics (+35%)</td>
</tr>
<tr>
<td><strong>Diabetes Care</strong></td>
<td>+1%</td>
<td>- Glucose monitoring(^3) (+1%); Insulin delivery systems (-1%)</td>
</tr>
<tr>
<td><strong>Tissue Diagnostics</strong></td>
<td>0%</td>
<td>- Primary staining (+3%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Advanced staining (+1%; reagents +5%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- BenchMark and Discovery Ultra shipment delays</td>
</tr>
</tbody>
</table>

1 Underlying growth of Molecular Diagnostics excluding sequencing business: +6%%; 2 EMEA = Europe, Middle East and Africa; 3 Glucose monitoring = Blood glucose monitoring and continuous glucose monitoring; CER = Constant Exchange Rates
2019: Diagnostics Division

 Core operating profit growing at +1%

<table>
<thead>
<tr>
<th></th>
<th>2019 CHFm</th>
<th>% sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>12,950</td>
<td>100.0</td>
</tr>
<tr>
<td>Royalties &amp; other op. inc.</td>
<td>87</td>
<td>0.7</td>
</tr>
<tr>
<td>Cost of sales</td>
<td>-6,183</td>
<td>-47.8</td>
</tr>
<tr>
<td>M &amp; D</td>
<td>-2,909</td>
<td>-22.5</td>
</tr>
<tr>
<td>R &amp; D</td>
<td>-1,468</td>
<td>-11.3</td>
</tr>
<tr>
<td>G &amp; A</td>
<td>-511</td>
<td>-3.9</td>
</tr>
<tr>
<td>Core operating profit</td>
<td>1,966</td>
<td>15.2</td>
</tr>
</tbody>
</table>

CER=Constant Exchange Rates
About Roche Diagnostics

Diagnostics Strategy and Business Model

Financials

Organization and Core Technologies

Personalized Healthcare and Data Management
# Our Business Area/Unit structure

<table>
<thead>
<tr>
<th>Centralized and POC Solutions</th>
<th>Molecular Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Centralized and POC Solutions Image]</td>
<td>![Molecular Solutions Image]</td>
</tr>
<tr>
<td>• Serum work area/immuno-assays and clinical chemistry</td>
<td>• Molecular Diagnostics</td>
</tr>
<tr>
<td>• Point-of-care testing</td>
<td>• Virology</td>
</tr>
<tr>
<td>• Specially testing (hemostasis, hematology, urinalysis)</td>
<td>• Blood screening</td>
</tr>
<tr>
<td>• Lab IT and workflow management</td>
<td>• Genomics/oncology</td>
</tr>
<tr>
<td>• Custom Biotech (applications for manufacturing)</td>
<td>• Microbiology</td>
</tr>
<tr>
<td></td>
<td>• Nucleic acid DNA purification and real-time PCR</td>
</tr>
<tr>
<td></td>
<td>• Tissue Diagnostics</td>
</tr>
<tr>
<td></td>
<td>• Primary staining</td>
</tr>
<tr>
<td></td>
<td>• Advanced staining</td>
</tr>
<tr>
<td></td>
<td>• Workflow management</td>
</tr>
<tr>
<td></td>
<td>• Digital pathology</td>
</tr>
<tr>
<td></td>
<td>• Companion Diagnostics</td>
</tr>
<tr>
<td></td>
<td>• Sequencing Unit</td>
</tr>
<tr>
<td></td>
<td>• Sample preparation</td>
</tr>
<tr>
<td></td>
<td>• Sequencing for clinical and life science applications</td>
</tr>
<tr>
<td></td>
<td>• Analytics</td>
</tr>
<tr>
<td></td>
<td>• Harmony prenatal test</td>
</tr>
<tr>
<td>Diabetes Care</td>
<td>![Diabetes Care Image]</td>
</tr>
<tr>
<td></td>
<td>• Blood glucose monitoring</td>
</tr>
<tr>
<td></td>
<td>• Insulin delivery</td>
</tr>
<tr>
<td></td>
<td>• Continuous glucose monitoring</td>
</tr>
<tr>
<td></td>
<td>• Diabetes Management Solutions</td>
</tr>
</tbody>
</table>
Integrated Core Lab
Expansion with additional solutions and entering new disciplines

* cobas pure and cobas Mass Spec have not been launched, yet.
About Roche Diagnostics

Diagnostics Strategy and Business Model

Financials

Organization and Core Technologies

- Centralized and Point of Care Solutions

Personalized Healthcare and Data Management
Centralised and Point of Care Solutions

Our strategic roadmap

Yesterday
Best in Serum Work Area
We shaped the market by connecting clinical chemistry and immunoassays to create Serum Work Area.

Today
Best in Integrated Core Laboratory
Integrating further disciplines including molecular diagnostics, hematology, coagulation and third parties.

2022
+ Integrated diagnostic information anywhere, anytime
Making diagnostic information from core & satellite labs, PoC and patients available where and when it is needed.
# Centralised and Point of Care Solutions

**#1 in clinical chemistry and immunoassays**

<table>
<thead>
<tr>
<th>New launches of Immunoassays</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PIVKA-II</td>
<td>EBV VCA IgG</td>
</tr>
<tr>
<td>IGFBP-3</td>
<td>EBV IgM</td>
</tr>
<tr>
<td>FT4 III</td>
<td>Androstenedione</td>
</tr>
<tr>
<td>Anti-HAV II</td>
<td>Lyme IgG</td>
</tr>
<tr>
<td>Anti-p53</td>
<td>Lyme IgM</td>
</tr>
<tr>
<td>EBV EBNA IgG</td>
<td>AFP-L3, GALAD Score</td>
</tr>
</tbody>
</table>

- **Launched in 2018**
- **Launched in 2019**
- **Launch planned in 2020**
- **Launch planned in >2020**

- Broadest Serum Work Area assay menu consolidated on a single platform \(^1,2\)
- Up to 2,200 tests per hour
- Up to 3¼ hours less operating time \(^3\)

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1 Method sheets cobas c 503, cobas e 801, Beckman Unicel DxI/DxC, Abbott ARCHITECT c/i, Abbott Alinity c/i, Siemens Atellica CH/IM, Siemens Vista, Siemens Centaur
2 Status March 2019, Source: [Abbott website Alinity](https://www.abbott.com/alinity), [Abbott website ARCHITECT c8200](https://www.abbott.com/ARCHITECT-c8200), [Siemens website Atellica](https://www.siemens.com/medical-diagnosics), [Siemens website ADVIA](https://www.siemens.com/medical-diagnosics/advia), [Beckman Coulter website](https://www.beckmancoulter.com/)
3 for a daily routine workload, as compared to cobas 6000 <501|501|601>
Launch of cobas® mobile solutions
*Digital tool designed to boost laboratory efficiency and convenience*

Enables direct monitoring and interaction with serum work area systems through a platform of apps available on a tablet.
Other lab instruments

Portfolio Overview

**Diabetes Testing**
- HbA1c (Glycated hemoglobin) analyzer

**Core Lab Coagulation**
- Blood coagulation management

**Urine Testing**
- Fully automated urine work area solution

HbA1c = Hemoglobin A1c
## Comprehensive menu that continues to grow

*We develop medical value assays that change patients’ lives*

<table>
<thead>
<tr>
<th>Disease Area</th>
<th>Oncology</th>
<th>Cardiovascular</th>
<th>Infectious Diseases</th>
<th>Neurology</th>
<th>Women's health</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of tests</td>
<td>~350</td>
<td>~35</td>
<td>~35</td>
<td>~3</td>
<td>~20</td>
<td>~390</td>
</tr>
</tbody>
</table>

### Major achievements

- **Oncology**: Implementation of national 1st line screening for HPV in selected markets
- **Cardiovascular**: Fastest time to diagnosis of Acute myocardial infarction with high sensitive troponin T
- **Infectious Diseases**: Plasma Separation Card added to Global Access Program
- **Neurology**: FDA breakthrough status for pTau/AB42
- **Women's health**: NICE recommendation & FDA breakthrough status for sFlt-1/PlGF Companion diagnostic AMH Plus
- **Others**: Anemia, Bone, Coagulation, DAT, Endocrinology, Hematology, Hepatology, Inflammation, Renal, TDM, Urine

### Novel solutions in development

- **Liquid biopsy**
- **Atrial fibrillation, Coronary Artery Disease & Heart Failure Indication Programs**
- **Smarticles technology**
- **Blood based markers for neurodegenerative disease**
- **Polycystic Ovary Syndrome and Endometriosis markers**
- **Sepsis Indication Program**

*Indication program: development programs for complete diagnostic solutions for a specific indication or disease*

HPV = Human papillomavirus; pTau/AB = Phosphorylated tau/Amyloid beta; sFlt-1/PlGF = Soluble fms-like tyrosine kinase 1 and placental growth factor; DAT = Drug of abuse testing; TDM = Therapeutic drug monitoring
POC testing solutions
Portfolio overview

Accu-Chek Inform II
Glucose

Blood gas & Electrolytes

CoaguChek Pro / CoaguChek INRange
Coagulation

Urisys 1100
Urinalysis

cobas b123
cobas h232
cobas b101
Cardiac

HbA1c, Lipids and CRP

HbA1c = Hemoglobin A1c; CRP = C-reactive protein
About Roche Diagnostics

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Financials

Organization and Core Technologies

- Molecular Diagnostics

Personalized Healthcare and Data Management
Roche Molecular Solutions
Connecting complementary disciplines

TISSUE WORKFLOW

MOLECULAR WORKFLOW

SEQUENCING WORKFLOW

Synergistic technologies create a comprehensive diagnostic pathway

* Research Use Only. Not for diagnostic use
# Molecular Diagnostics: Centralized and mPoC Solutions

<table>
<thead>
<tr>
<th>Donor Screening</th>
<th>Infectious Disease</th>
<th>Sexual Health</th>
<th>Transplant</th>
<th>Microbiology</th>
<th>Genomics &amp; Oncology</th>
<th>mPoC</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMD Assays</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Multiplex HIV, HCV, HBV</td>
<td>• HIV</td>
<td>• Human Papillomavirus</td>
<td>• CMV</td>
<td>• MTB/MAI/RIF-INH</td>
<td>• BRAF</td>
<td>• Influenza A/B</td>
</tr>
<tr>
<td>• West Nile Virus</td>
<td>• Hepatitis B, C</td>
<td>• Chlamydia &amp; Gonorrhea</td>
<td>• Epstein-Barr</td>
<td>• MRSAsA</td>
<td>• K-RAS</td>
<td>• Influenza A/B &amp; RSV</td>
</tr>
<tr>
<td>• B19 and HAV</td>
<td>• HCV Genotyping</td>
<td>• Trichomonas vaginalis &amp; Mycoplasma genitalium</td>
<td>• BK virus</td>
<td>• HCV Genotyping</td>
<td>• EGFR</td>
<td>• Strep A</td>
</tr>
<tr>
<td>• Hepatitis E</td>
<td>• Zika</td>
<td>• Herpes Simplex</td>
<td>• Adeno virus</td>
<td>• C. difficile</td>
<td>• PIK3CA</td>
<td>• C. difficile</td>
</tr>
<tr>
<td>• Chikungunya &amp; Dengue</td>
<td>• Babesia</td>
<td></td>
<td></td>
<td></td>
<td>• Factor II/V</td>
<td></td>
</tr>
<tr>
<td>• HIV</td>
<td>• West Nile Virus</td>
<td>• Human Papillomavirus</td>
<td>• CMV</td>
<td>• MTB/MAI/RIF-INH</td>
<td>• BRAF</td>
<td>• Influenza A/B</td>
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<td>• Epstein-Barr</td>
<td>• MRSAsA</td>
<td>• K-RAS</td>
<td>• Influenza A/B &amp; RSV</td>
</tr>
<tr>
<td>• HCV Genotyping</td>
<td>• Trichomonas vaginalis &amp; Mycoplasma genitalium</td>
<td>• Human Papillomavirus</td>
<td>• BK virus</td>
<td>• HCV Genotyping</td>
<td>• EGFR</td>
<td>• Strep A</td>
</tr>
<tr>
<td>• Zika</td>
<td>• Herpes Simplex</td>
<td>• Herpes Simplex</td>
<td>• Adeno virus</td>
<td>• C. difficile</td>
<td>• PIK3CA</td>
<td>• C. difficile</td>
</tr>
<tr>
<td>• Babesia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Factor II/V</td>
<td></td>
</tr>
</tbody>
</table>

RMD Platform Strategy

- cobas® 6800/8800 Systems
  - Connectable, advanced PCR automation
  - Highest throughput (3x above closest competitor)
  - Broad and expanding menu

- cobas® 4800 System
  - Low to middle volume throughput
  - Broad menu

- cobas® Liat® System
  - Faster decision making: PCR results in under 20 mins
  - Greater oversight: Full IT Connectivity
  - Proven performance; improved patient management

HCV = Hepatitis C virus; HBV = Hepatitis B virus; HAV = Hepatitis A virus; CMV = Cytomegalovirus; MTB = Mycobacterium tuberculosis; MAI = Mycobacterium avium-intracellulare infection; RIF = Rifampicin; INH = Isoniazid; MRSA = Methicillin-resistant Staphylococcus aureus; SA = Staphylococcus aureus; EGFR = Epidermal growth factor receptor; PCR = Polymerase chain reaction
cobas® 6800/8800 Systems driving growth in molecular
Menu continues to expand to support consolidated testing

<table>
<thead>
<tr>
<th>Donor Screening</th>
<th>Infectious Disease</th>
<th>Sexual Health</th>
<th>Transplant</th>
<th>Respiratory</th>
<th>Antimicrobial Stewardship</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPX</td>
<td>HIV-1</td>
<td>HPV</td>
<td>CMV</td>
<td>MTB</td>
<td>MTB-RIF/INH</td>
</tr>
<tr>
<td>WNV</td>
<td>HBV</td>
<td>CT/NG</td>
<td>ADV</td>
<td>MAI</td>
<td></td>
</tr>
<tr>
<td>DPX</td>
<td>HCV</td>
<td>TV/MG</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HEV</td>
<td>HIV-1/2 Qual</td>
<td>HPV Self Sampling</td>
<td>EBV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHIKV/DENV</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Not available in the US)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zika</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Babesia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Installed instrument base:** ~750*

*October 2019

**Abbreviations:**
- MPX = Multiplex detection of HIV-1, HIV-2, HCV and HBV; WNV = West Nile virus; DPX = Duplex detection of parvovirus B19 and HAV; HEV = Hepatitis E virus; CHIKV = Chikungunya virus; DENV = Dengue virus; HBV = Hepatitis B virus; HCV = Hepatitis C virus; HPV = Human papillomavirus; CT = Chlamydia trachomatis; NG = Neisseria gonorrhoea; TV = Trichomonas vaginalis; CMV = Cytomegalovirus; EBV = Epstein-Barr virus; BKV = BK virus; ADV = Adenovirus; HSV-1/2/VZV = Multiplex detection of Herpes simplex virus 1 and 2 and Varicella-zoster virus; MTB = Mycobacterium tuberculosis; MAI = Mycobacterium avium-intracellulare infection; MPLX = Detect and discriminate multiple (up to 14) pathogens associated with a clinical syndrome; RIF = Rifampicin; INH = Isoniazid
Flu season driving cobas® Liat® System sales
Pediatric and emergency room focus segments

Launched globally with placement in every region

Instrument installed base: >4,000

- Only system that delivers RT-PCR results in under 20 mins at the point of care
- Simple, connected workflow essential for decentralized locations
- Provides answers during the patient visit

Assays available

<table>
<thead>
<tr>
<th>Assay Type</th>
<th>CE</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>cobas® Influenza A/B</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>cobas® Strep A</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>cobas® Influenza A/B &amp; RSV</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>cobas® C.diff</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

RT-PCR = Real-Time polymerase chain reaction; RSV = Respiratory syncytial virus
About Roche Diagnostics

Diagnostics Strategy and Business Model

Financials

Organization and Core Technologies

- Tissue Diagnostics

Personalized Healthcare and Data Management
Tissue Diagnostics: Product Portfolio
Comprehensive offering across the pathology workflow

SS = Special Stains; IHC = immunohistochemistry; ISH = in situ hybridization
Deliver **PRECISION DIAGNOSTICS** by combining best-in-class advanced staining assays with a high quality digital pathology portfolio.
About Roche Diagnostics

Diagnostics Strategy and Business Model

Financials

Organization and Core Technologies
- Sequencing

Personalized Healthcare and Data Management
Roche Sequencing Solutions Vision

Become the partner of choice for sequencing by making it simple and accessible enough for routine clinical use

Sample preparation

Sequencing

Analytics & reporting

Medical and Research Content

Sample In

Result Out

Automated Workflow

Scalable & Cost Effective

Simplified Reporting & Data Capture
Roche Sequencing Solutions
Innovating across the workflow to make NGS simple and accessible

**SAMPLE PREPARATION**
- AVENIO Millisect System (Tissue Dissection)
- KAPA Library Preparation portfolio
- SeqCap Target Enrichment portfolio
- Automated Extraction for ctDNA

**SEQUENCING**
- Nanopore Sequencer*

**ANALYTICS AND REPORTING**
- Software, bioinformatics and clinical decision support tools (NAVIFY Mutation Profiler)

**MEDICAL & RESEARCH CONTENT**
- NIPT: Harmony Prenatal Test
- CLIA lab service
- CE-IVD & RUO Harmony Kits
- AVENIO ctDNA Analysis Kits
- AVENIO Tumor Tissue Analysis Kits

* in development
Launch of NGS Avenio tumor tissue analysis kits¹
Comprehensive genomic profiling of solid tumors

AVENIO tumor tissue targeted kit
- Pan-cancer assay for tumor profiling
- 17 genes (81 kb)

AVENIO tumor tissue expanded kit
- Pan-cancer assay for expanded tumor profiling
- 77 genes (192 kb)

AVENIO tumor tissue surveillance kit
- Longitudinal tumor burden monitoring applications, focus on lung and colorectal cancer
- 197 genes (198 kb)

- Includes all reagents & informatics for a “sample in – result out” solution
- Each kit detects all four mutation classes including SNVs, CNVs, indels, and fusions
- Panel content matched with on-market AVENIO ctDNA assays expands clinical research opportunities

¹ Also approved as liquid biopsy tests
Research use only. Validated for use on Illumina NextSeq 500/550 instruments. NextSeq 500/550 instruments and associated sequencing reagents are manufactured and sold by Illumina and are not supplied by Roche; SNV=single nucleotide variant; CNV=copy number variant; indel=insertion or deletion
About Roche Diagnostics

Diagnostics Strategy and Business Model

Financials

Organization and Core Technologies

- Diabetes Care

Personalized Healthcare and Data Management
Roche Diabetes Care Portfolio

Digital Diabetes Management Solutions

Continuous Glucose Monitoring
- Senseonics Eversense XL

Blood Glucose Monitoring
- Accu-Chek Guide
- Accu-Chek Instant
- Accu-Chek SugarView
- Accu-Chek Mobile

Insulin Delivery Systems
- Accu-Chek Solo
- Accu-Chek Insight
- Accu-Chek Combo
- Accu-Chek Infusion Sets
- Accu-Chek DiaPort

Lancing Devices
- Accu-Chek Lancing Systems
About Roche Diagnostics

Diagnostics Strategy and Business Model

Financials

Organization and Core Technologies

Personalized Healthcare and Data Management
Roche Diagnostics
Leader in Personalised Healthcare (PHC)

- 60% of late stage Pharma development products have an accompanying companion diagnostics test
- Combined strengths of Pharmaceuticals and Diagnostics: 300 internal collaboration, 50 external collaborations
- Synergies in research, development and marketing
Growing a portfolio of decision support solutions

**NAVIFY Portfolio and Platform**

**Workflow Products:** e.g. Tumor Board, Oncologist workflow, Lab Interpretation Support and Tumor Profiler

**Decision Support Apps (incl. AI):** e.g. Literature Search, Clinical Trial Matching, Guidelines, Medical Algorithms

**Aggregated Data Insights**

---

1 Aggregated data sets and Insights as a Service. Feedback loop to Decision Support Apps.
## Expanding CDx Menu

### Market leading portfolio

<table>
<thead>
<tr>
<th>Indication</th>
<th>Biomarker</th>
<th>Therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast Cancer</td>
<td>HER2</td>
<td>Herceptin, Kadcyla, Perjeta</td>
</tr>
<tr>
<td></td>
<td>PIK3CA</td>
<td>Piqray</td>
</tr>
<tr>
<td>Non-Small Cell Lung Cancer</td>
<td>EGFR</td>
<td>Gilotrif, Iressa, Tagrisso, Tarceva,</td>
</tr>
<tr>
<td></td>
<td>ALK</td>
<td>Alecensa, Xalkori, Zykapia</td>
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<tr>
<td></td>
<td>PD-L1</td>
<td>Imfinzi, Keytruda, Opdivo, Tecentriq</td>
</tr>
<tr>
<td></td>
<td>BRAF</td>
<td>Tafinlar in combination with Mekinist</td>
</tr>
<tr>
<td>Gastrointestinal Stromal Tumors</td>
<td>C-KIT</td>
<td>Gleevec</td>
</tr>
<tr>
<td>Melanoma</td>
<td>BRAF</td>
<td>Tafinlar, Zelboraf; Mekinist, Cotellia, in combination with Zelboraf</td>
</tr>
<tr>
<td>Colorectal Cancer</td>
<td>KRAS</td>
<td>Erbitux, Vectibix</td>
</tr>
<tr>
<td>Ovarian Cancer</td>
<td>BRCA</td>
<td>Lynparza, Rubraca</td>
</tr>
</tbody>
</table>
Doing now what patients need next