



# Global Operations Unmatched Advantage – Innovation & Scalability

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# Forward Looking Statement

During this presentation and corresponding commentary we may make forward-looking statements, including statements regarding Align's strategy for future growth, plans related to global expansion of operational presence, our expectations regarding our ability to develop and commercialize new products, planned geographic expansion and anticipated impact on our growth, our expectations related to sales force coverage on, among other things, customer adoption, as well as statements related to Align's business outlook for 2016 and beyond. Any such forward-looking statements contained in this presentation and corresponding commentary are based upon information available to Align as of the date hereof. These forward-looking statements are only predictions and are subject to risks, uncertainties and assumptions that are difficult to predict. As a result, actual results may differ materially and adversely from those expressed in any forward-looking statement. Factors that may cause such a difference include, but are not limited to, the factors that are discussed in more detail in Align Technology's Forms 10-K and 10-Q, as well as in other reports and documents filed from time to time with the Securities and Exchange Commission. Align undertakes no obligation to revise or update publicly any forward-looking statements for any reason.

# Unique Challenges Require Unique Solutions

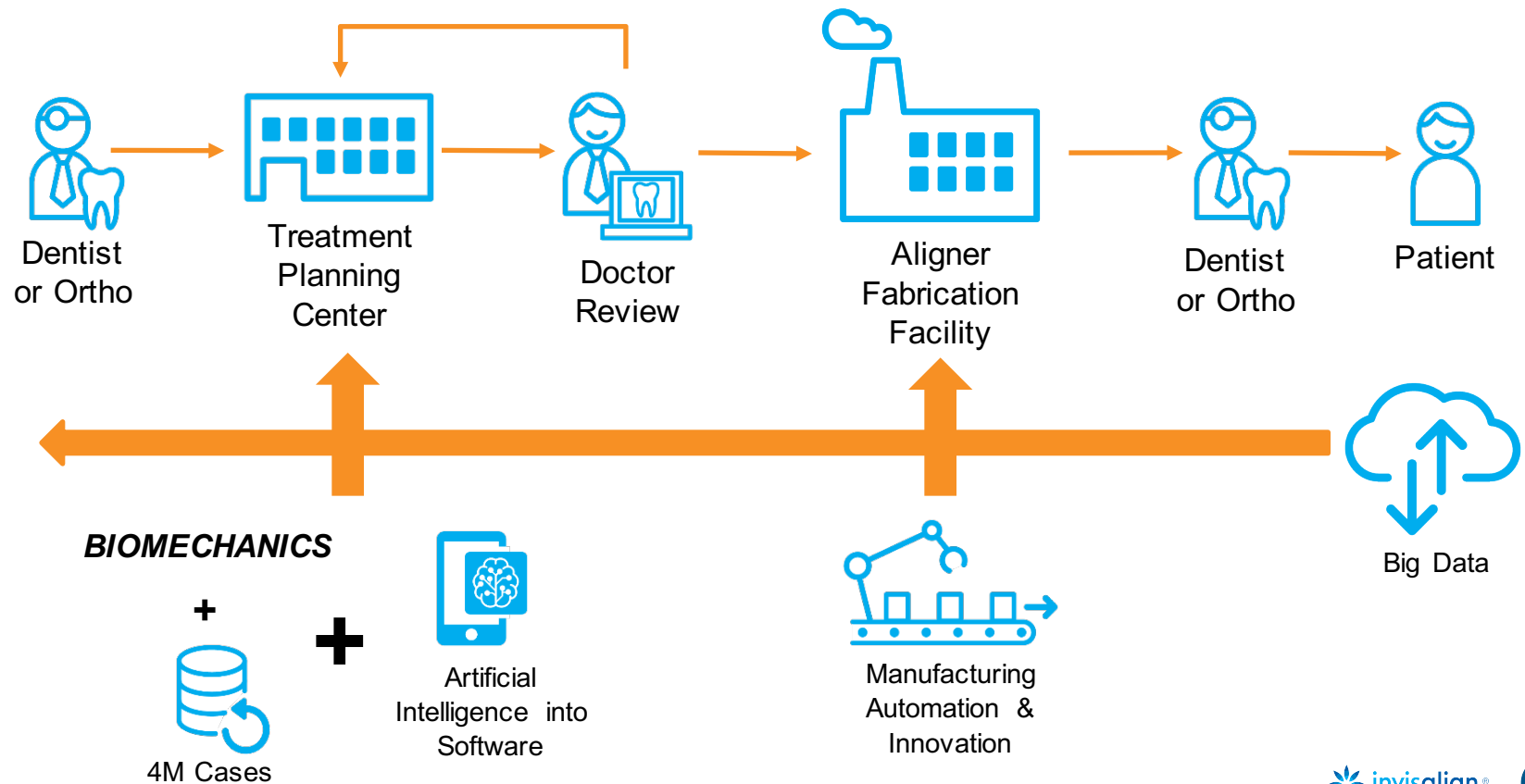
**Conceptually Easy...  
But in Reality  
Hard to Do**

**Small, Light, Clear, Unique...  
No 2 Patients or Appliances  
Are the Same**

**Mass Customization  
Required to Scale...  
180K Unique Appliances  
Each Day**

**Simple Yet Complex  
Business Model...  
High Mix, High Volume,  
Built to Order**

# Align's Operations Value Chain is a Significant Competitive Advantage





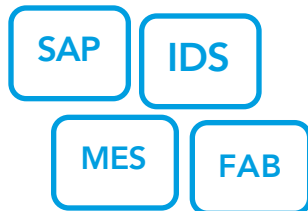
# Seamless Global Management of Data

*Highly Integrated Ecosystem to Deliver Custom Treatments & Aligners*

Cloud Computing



Real-time Data  
Redundancy and  
back-up



Enterprise  
Application  
Integration



Manufacturing  
Automation &  
Innovation

**2.9M** Files/Day

Move through ecosystem to enable  
production

**15** Terabytes/Day

Downloading 4.3M songs or 6300 full-  
length HD movies

**1.5M** Lines of Code

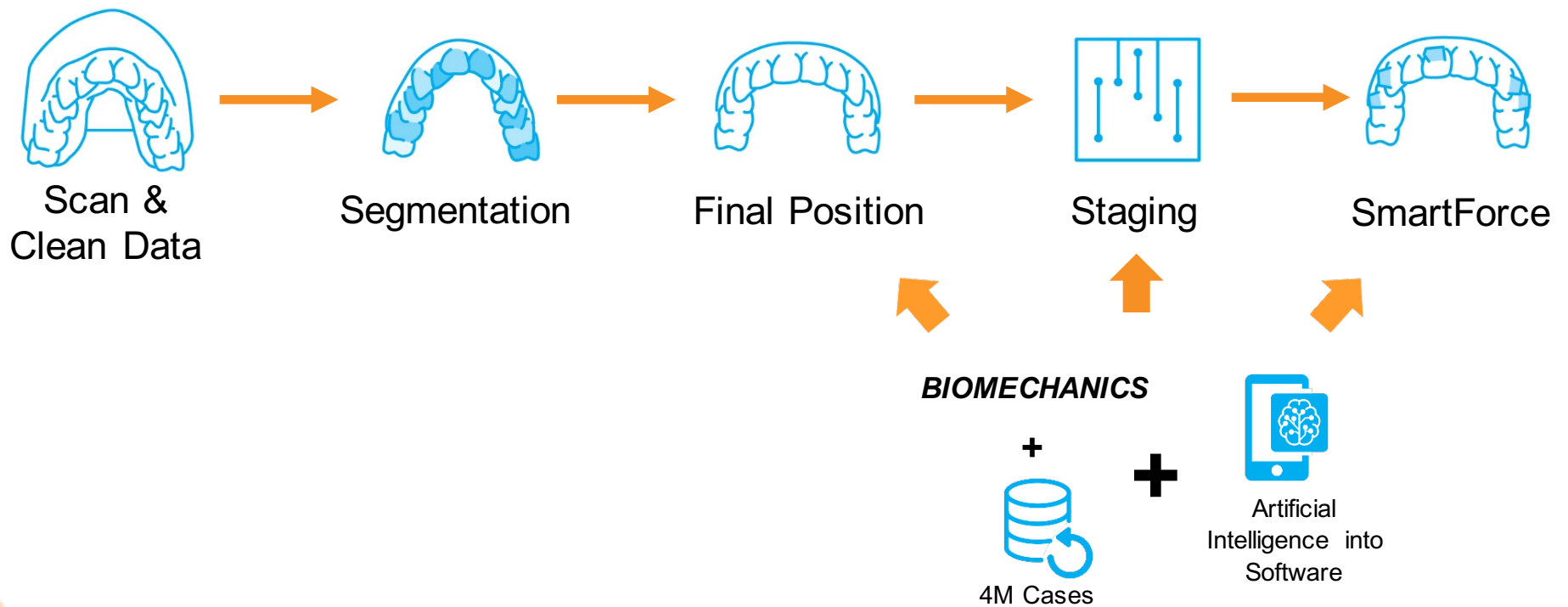
In treatment planning software

**26B** Instructions/Day

Exchanged between automated systems  
to coordinate and record production

# Invisalign Treatment Planning Overview

*Continuous Evolution of Our Technology*



# Final Position with First Generation Software

*Enabled visualization for End-to-End Treatment Planning*



Final Position

## EARLY GENERATION SOFTWARE

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- Technician Procedures
  - Studied Rx from doctor
  - Manually moved each tooth
  - Each movement may have created collision with adjacent teeth
  - Heavily dependent on technician capabilities
- Average treatment set-up
  - > 1 hour to complete
- Many in industry still do it this way

# Final Position with Intelligent Software

## *Clinical Intelligence Built-in*



Final Position

### ADVANCED SOFTWARE – NON EXTRACTION

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- **Technician Procedures Now**
  - Applies customer clinical decisions
- **Software Interprets**
  - Interprets decisions
  - Understands acceptable orthodontic norms
  - Determines best solutions
  - Less dependent on technician capabilities
- **Average treatment set-up**
  - 1/4 of the time to complete

# Final Position with Intelligent Software

*Facilitates Easy Changes/Options Around Clinical Decisions*



Final Position

## ADVANCED SOFTWARE - EXTRACTION

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- **Technician Procedures Now**
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# Tooth Sequencing/Staging

*Empirical Evidence Based on 4M Cases*



Staging

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- Software understands prescribed movements needed for final position & staging
- Software moves teeth at right speed and at right time



# SmartForce System

*Based on Biomechanic Principles & Clinical Results*



SmartForce

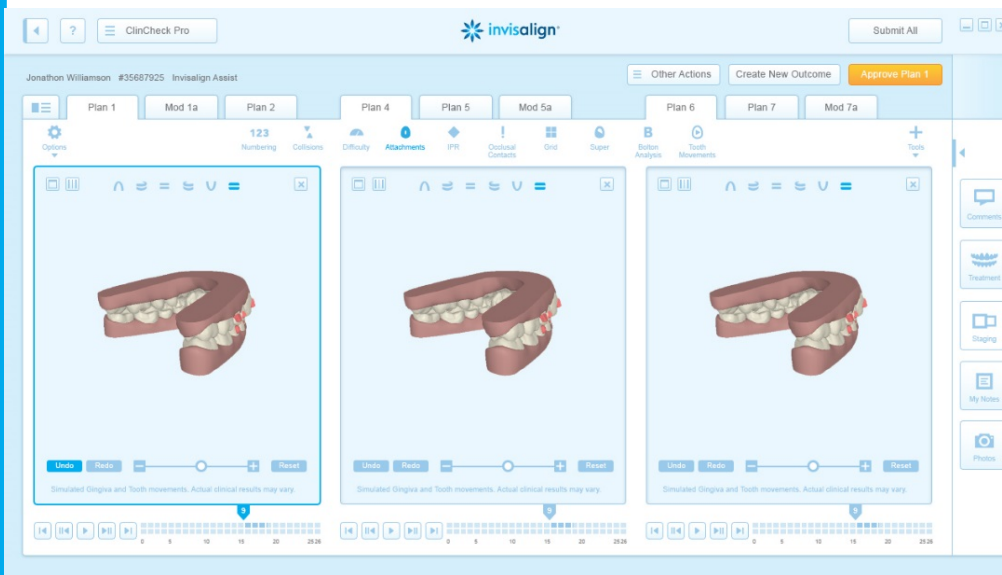
VIDEO NOT AVAILABLE

- Software understands prescribed movements needed for final position & staging
- SmartForce features placed automatically to ensure movements will happen

# Continuous Automation Will Improve Customer Experience

## *Multiple Treatment Plan Options Simultaneously*

### Multiple Treatment Options View for Doctors\*

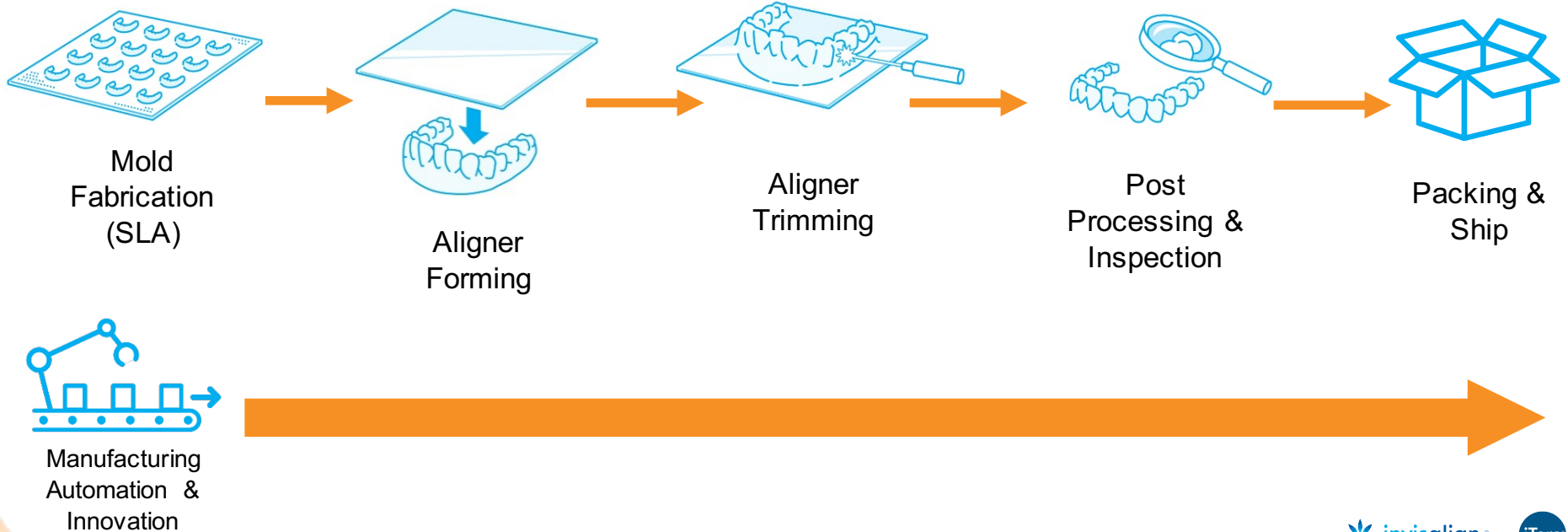


- Multiple treatment options available chair-side enables clinical decisions directly, real-time
- Enhances the patient experience and helps drive patient conversion
- Treatment plan will go directly to fabrication resulting in:
  - Significant reduction in lead-time
  - Significant reduction in doctor time

\* There is no assurance that these potential products/features will be commercialized and be commercially viable. In addition, regulatory submission may be required to support commercialization of one or more of these products.

# Align's Manufacturing Capabilities

## *Pushing the Limits of Custom Mass Manufacturing*



# Complexity of Aligner Mold Fabrication Processing

*We Pioneered Use of Technology in Manufacturing*



Mold Fabrication  
(SLA)

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# Off-the-Shelf 3D Printers Can Not Do What We Do

## *Significant Development Needed*



Mold Fabrication  
(SLA)

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- Technical Hurdles
  - Part accuracy
  - Part integrity  
(collapse in forming process)
  - Part Cost
- Take best scenario from technologies
  - 1/2 accuracy
  - 15-20X build time
  - 1/10 efficiency
  - 10X scrap
  - 10X cost

# Off-the-Shelf 3D Printers Can Not Do What We Do

*Know-how and Technical Capability Key to Making it Work*



Mold Fabrication  
(SLA)

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- Even if solve hurdles, secret in the room is still need to:
  - Solve post processing challenges
  - Build/acquire & maintain engineering capability to evolve
  - Build/acquire & maintain maintenance capability ensure equipment calibrated/running
- There is no gluttony of these skills sets



# What About Printing Aligners Directly?

*Align Will Be at the Forefront of This Evolution*



- Three Primary Problems
  - Mechanical Properties
  - Bio-compatibility
  - Clear
- Material does not exist that meets all needs
- Post processing & support will still need to be addressed
- Align is investing heavily and will drive this next phase of technology evolution\*

\* There is no assurance that direct printing of aligners will be commercialized and be commercially viable. In addition, regulatory submission maybe required to support commercialization of aligners that are directly printed.

# Continuous Technology Evolution in All Areas

## *Example: Laser Trimming Advancements*



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PhotoMachining, Inc.



# Continuous Technology Evolution in All Areas

*Example: Laser Trimming Advancements*



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## 1. Technical Hurdles

- Laser motion control
- Laser impact on aligner characteristics
- Laser Power modulation

## 2. Industry unable to solve issues directly

## 3. Required our algorithm and automation capabilities to build feasible platform

# Continuous Technology Evolution in All Areas

## Example: Laser Trimming Advancements



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### Laser Trimming Vendors

	Vendor 1-5	Vendor 6	Vendor 7...	Final Vendor w/Align Innovation
Motion Control	Declined to Participate (Beyond Capability)			
Power modulation				
Cost and design				

- 4-5 years of testing, modifications, research
- Burned through 10 vendors

# Manufacturing Evolution and Innovation

## *Almost 20 Years of Advancements*

### Phase 1 – Manual Operations

- Labor intensive, 100% manual forming, trimming, and packaging

<b>450</b>	<b>5,000</b>	<b>X</b>	<b>\$Y</b>
people	per day	Quality Measure	Cost/aligner

### Phase 2 – Islands of Automation

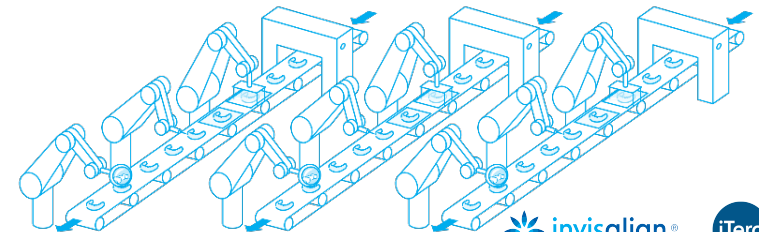
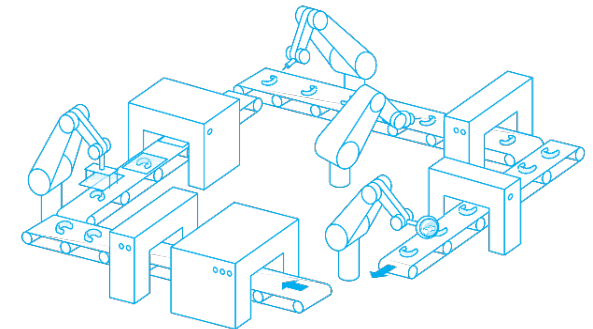
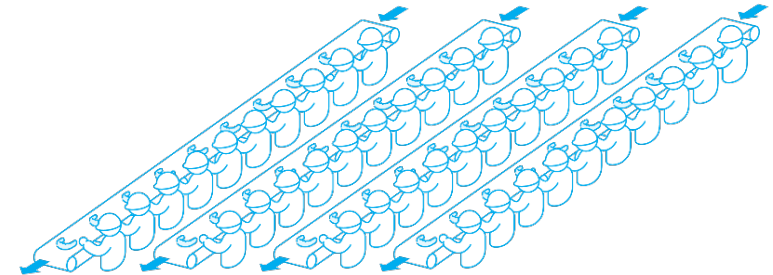
- Semi-automated forming, trimming, and packaging that we had to invent and custom design

<b>470</b>	<b>25,000</b>	<b>2X</b>	<b>-66%</b>
people	per day	Quality Measure	Cost/aligner

### Phase 3 – Fully Automated with a Modular Design

- 2nd/3rd generation designs with smaller footprint, higher throughput

<b>1500</b>	<b>140,000</b>	<b>5X</b>	<b>-85%</b>
people	per day	Quality Measure	Cost/aligner



# Designed for Scalability and Growth

## *Extending Our Leadership and Operational Global Presence*



### Operational Expansion Underway

- Bring our operations into major markets (EMEA & APAC)
- Local language, time-zone and business culture
- Shorter lead-times & better responsiveness
- Accelerate growth

### Longer-Term Plan

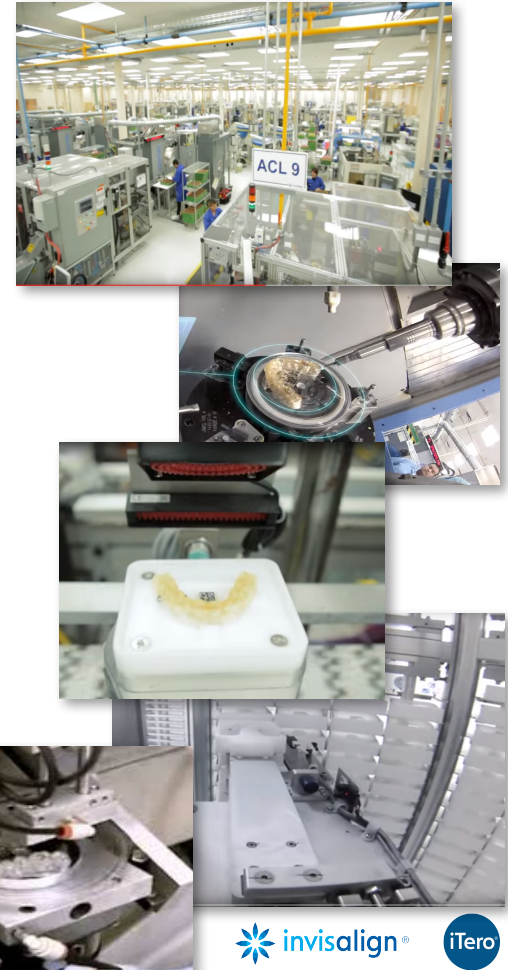
- 6 Treatment Planning locations in EMEA
- 3 Treatment Planning Locations in APAC
- 1 Order Acquisition & Fabrication location in EMEA
- 1 Order Acquisition & Fabrication location in APAC
- 1 Order Acquisition & Fabrication location Specifically for Japan



# Innovation and Technological Know-how

*Continue to build expertise and intellectual property*

- **Mass customization and data management**
- **Improving 3D object fabrication process**
- **Automation in large scale fabrication of custom objects**
- **Identification and tracking of unique 3D printed objects**
- **High throughput thermal forming**
- **Precision laser trimming of unique objects**
- **Sorting and sequencing of high volume customized objects**



# Continuous Innovation Designed for Scalability



- Continuous investment in technology and software development
- Competitive advantage across our unique value chain
- Designed for scalability to meet the demands of rapidly expanding customers
- Committed to future technology and platform transformations



invisalign®

