



*Aluminum lightens the world*

アルミでかなえる、軽やかな世界

# UACJ Automotive Whitehall Update

June 7, 2023



# Vertically Integrated Process Flow



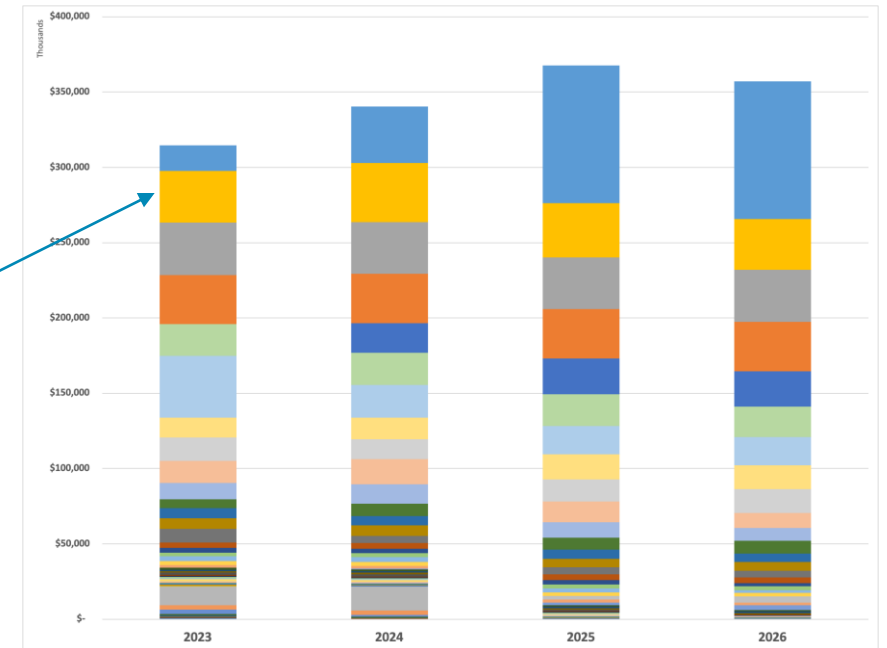
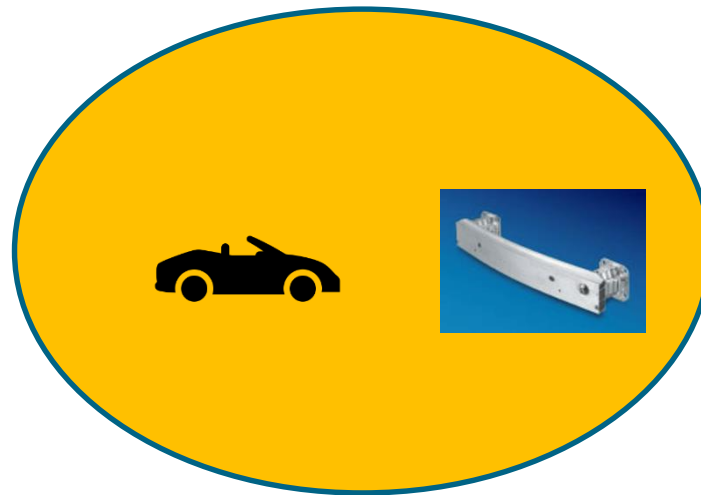
## Strengths:

- Superior aluminum extrusion process control
- Precision machining (nearly 50 years)
- Vertical integration
- Welding, laser cutting, bending
- Excellent quality – less than 20ppm



# Automotive Parts Business Model

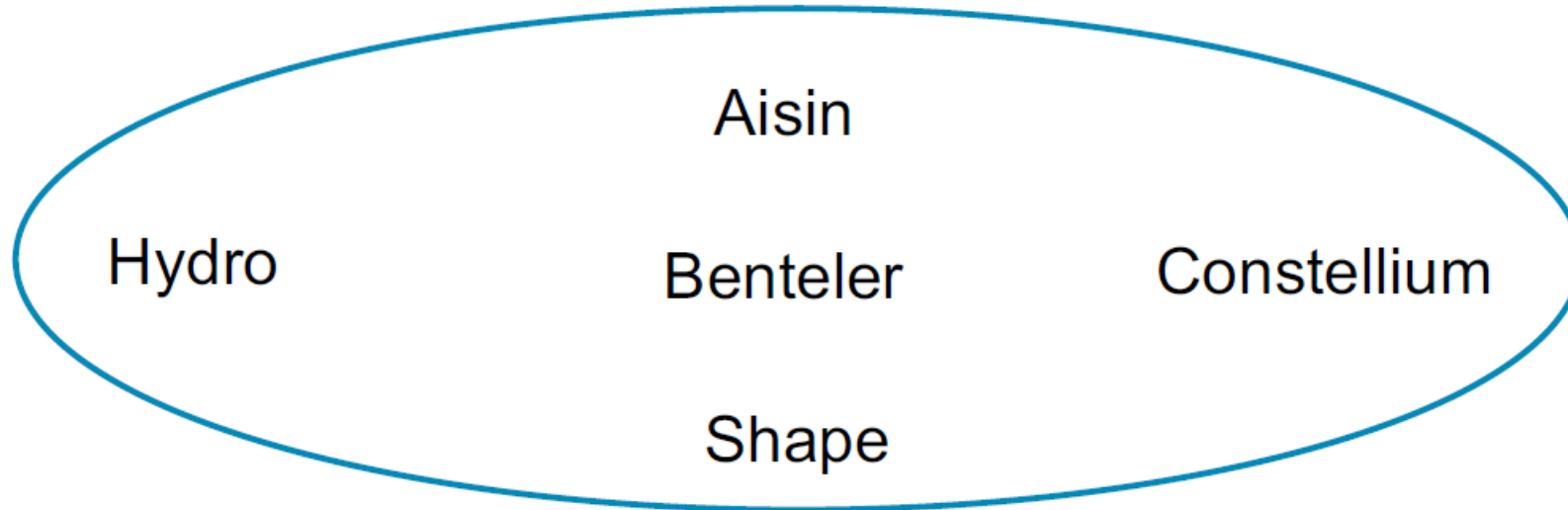
- 100% Automotive
- Automotive parts business consists of many single source contracts:
  - Awarded 2-4 years prior to SOP
  - Contracts awarded for life of program – typically 6 years
  - Capital/Tooling must be in place and verified 6-12 months prior to SOP
  - Sales volume dependent upon vehicle sales
- Vertically integrated – billet through finished part
- Engineer to engineer business development prior to award
- Low SG&A costs



# UACJ Automotive Whitehall Locations



# Competition – Vertically Integrated Automotive Structural Part Suppliers



I Believe that UACJ Whitehall is the most capable overall relative to our competition:

- Leader in structural extrusion capability and process control
- Tight tolerance machining for almost 50 years
- Relatively small, but very responsive and flexible
- Excellent in quality – less than 20ppm, zero ppm for many large customers
- Competitive cost structure



# North American Market Conditions

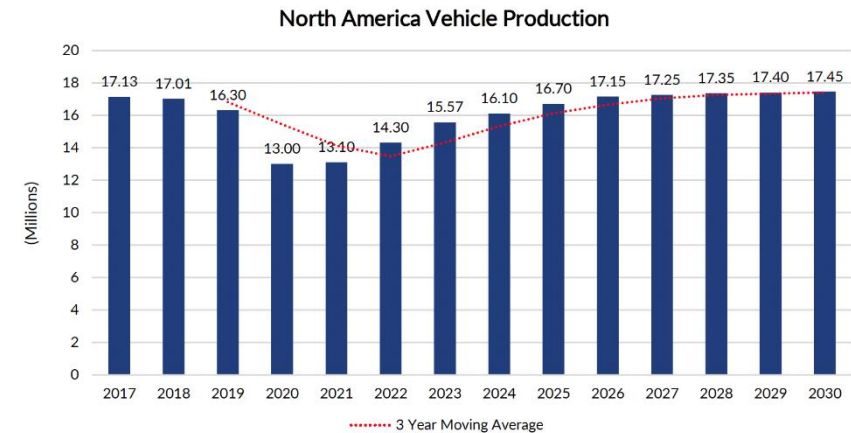
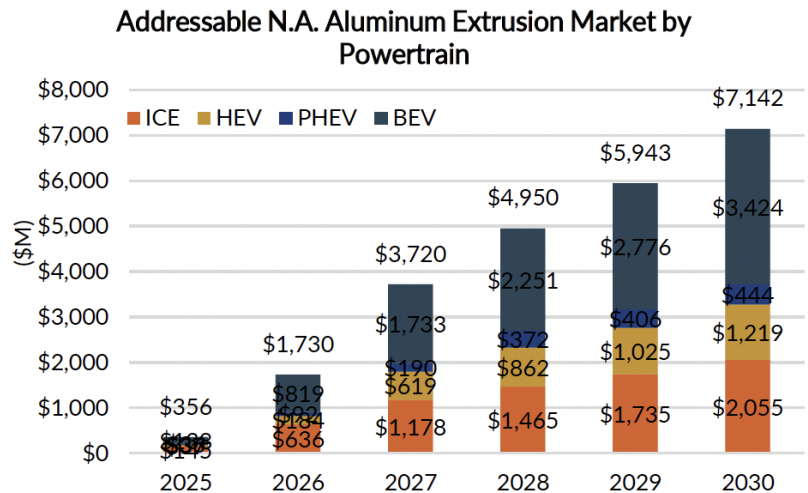
- Margins for auto suppliers have been negatively affected by inflation and pressure to increase wages.
- Chip and component shortages have eased
- Automotive production is expected to increase to 17 million during 2026
- The aluminum extrusion content in the NA automotive market is expected to grow rapidly, driven by EV



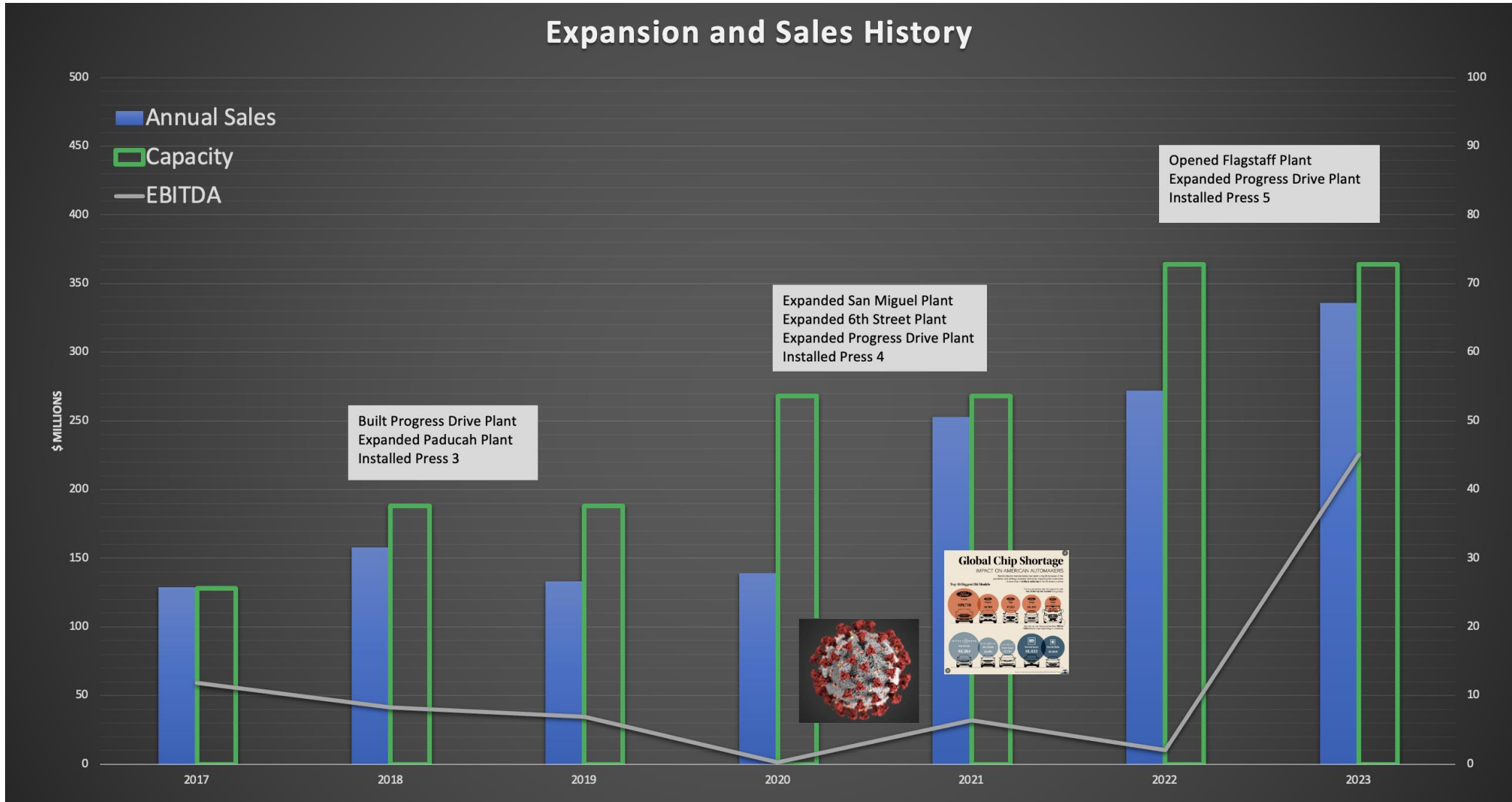
## North American Vehicle Production 2017-2030



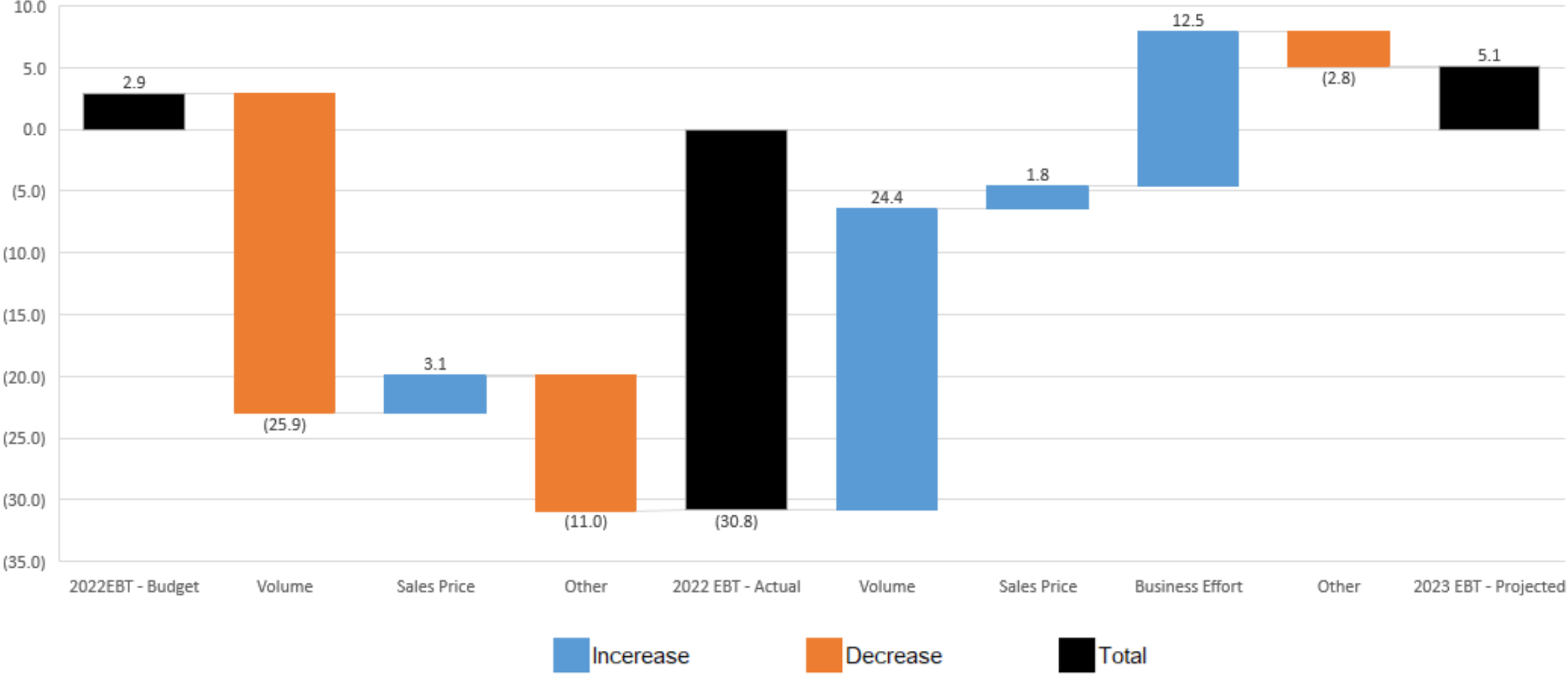
Announced vehicle production forecasted to normalize to approximately 17 million units through 2030—three year moving average in 2023 approximately 14 million units



# Capacity vs Sales Chart 2017 – 2023

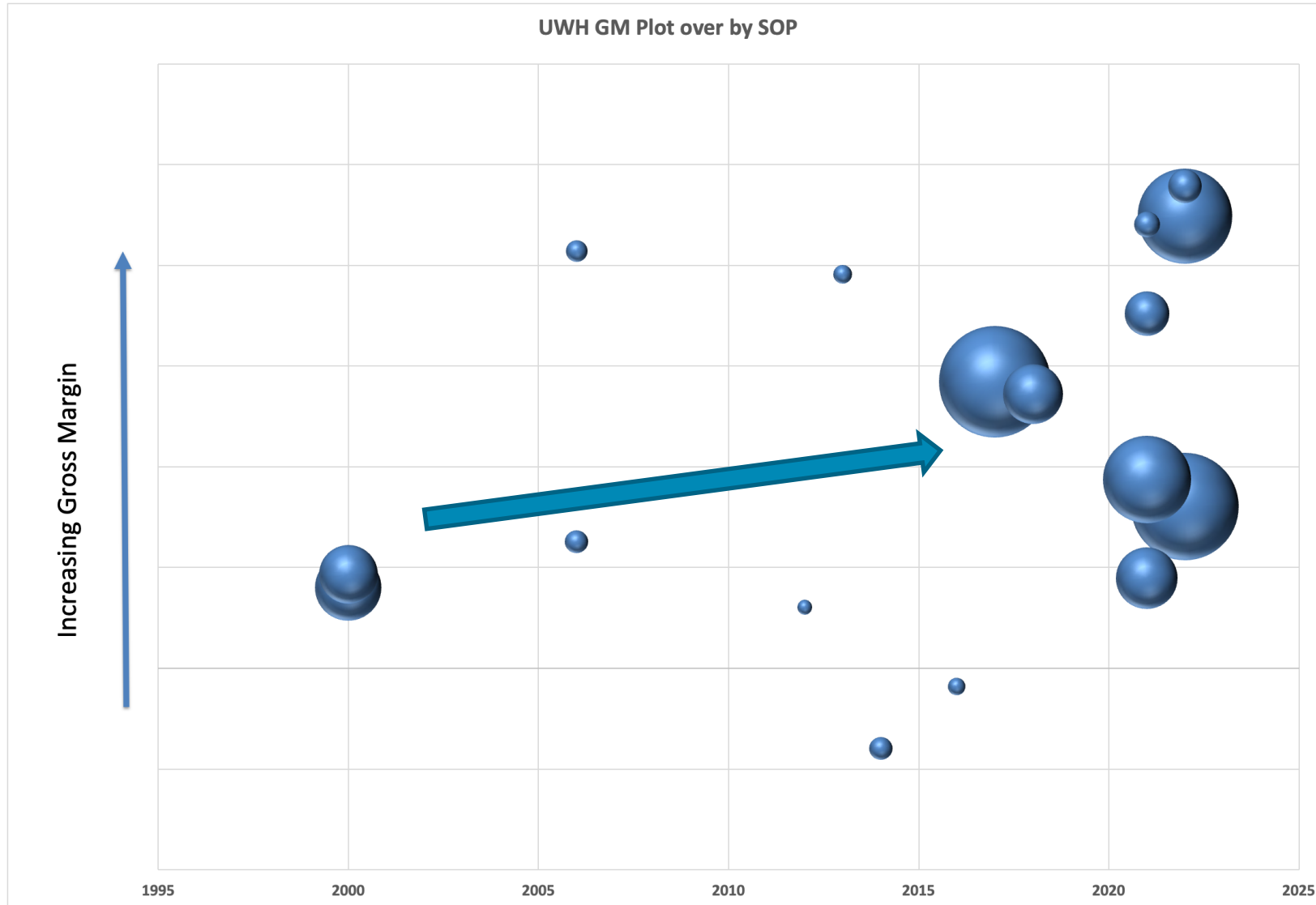


# 2022 to 2023 Waterfall





# Gross Margin by Program over Time

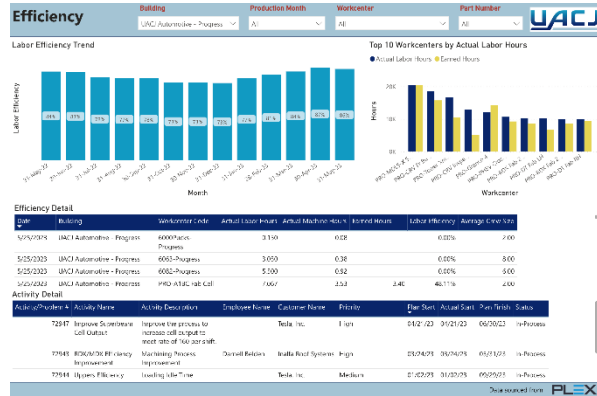


## Short Term Focus

6 years of expansion are complete complete :

- We have grown in excess of 15% CAGR during some difficult times
- We have transformed from tier 2/3 to primarily tier 1 Structural
- Recent launches of major structural automotive programs have been very successful
- We are now a leader in automotive structural extrusion capability
- We have maintained an excellent quality record of less than 20ppm
- We now have name recognition, and are sought by major OEM' s for new business
- We are now pausing expansion. During this pause, we are focused on:
  - Improving profitability
  - Reducing debt
  - Kaizen on newly launched programs
  - Preparing for the next step up and selecting new program targets

# Short term focus



Continuous Improvement



Automation



Restructuring

## KAIZEN IMPROVEMENTS

**AFTER**

**BEFORE**

Created 689 sq ft of footprint, combined cell into 1-piece flow, shorter lead time, 1 less operator required per shift

Inserted Assembly stations for 1 piece flow & line balance into wasted space

**Kaizen Activity Savings:**

- Line balance saved 1 operator x 3 shifts
- 689 sq ft of floor space
- Double-handling removed
- Transport between cells eliminated
- WIP Supermarket locations eliminated by 1-pc flow
- Plex computer station saved – can repurpose \$1k in computer hardware

Kaizen Events



Price Negotiations with Customers

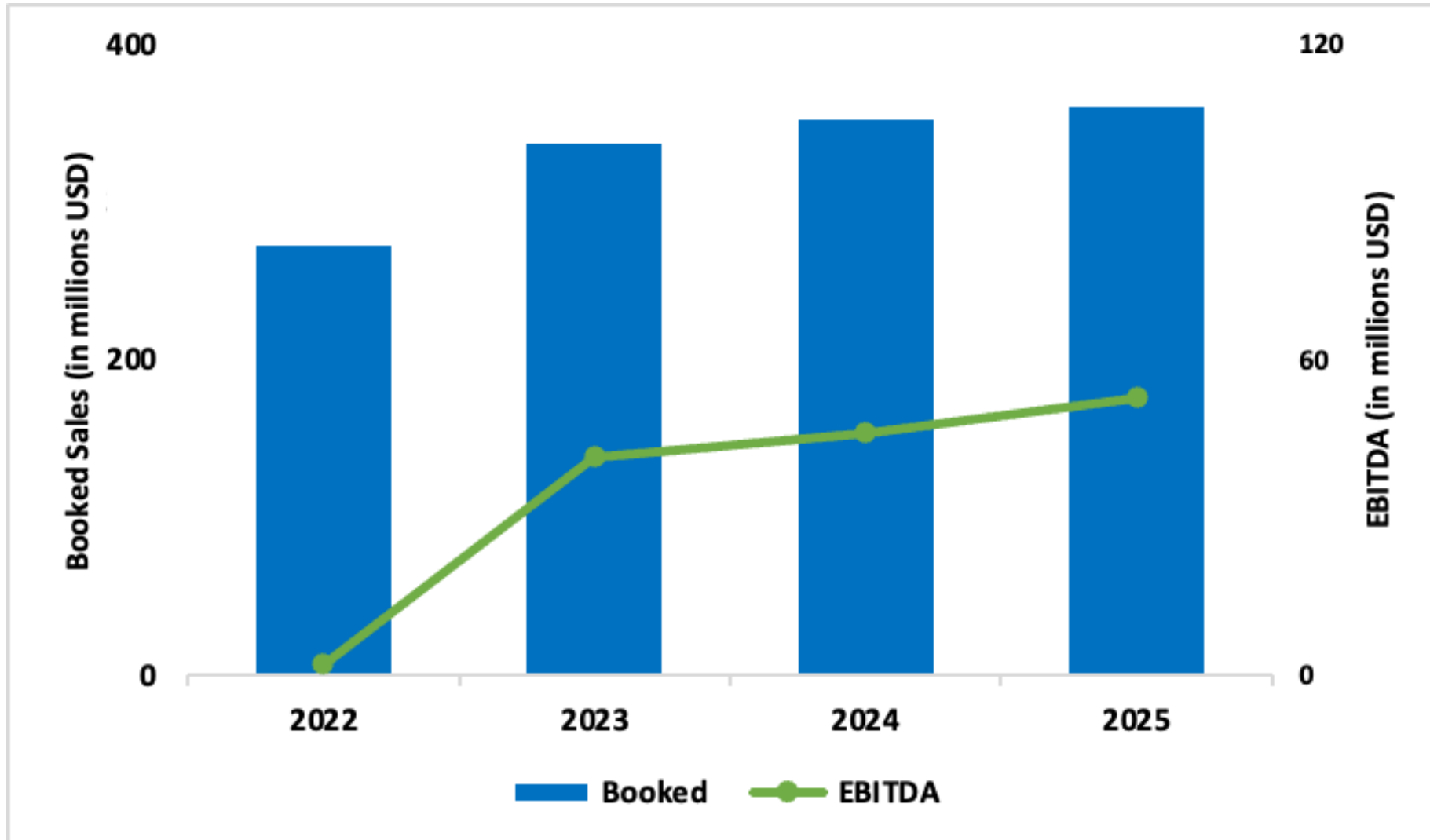


Growing Business in Mexico



Price Negotiations with Suppliers

# Sales Forecast 2023–2027 & EBITDA Chart 2022–2025





## Aluminum Extrusion Addressable Market *Methodology*

### 1. Identify Key Components

- Identify key aluminum extruded components
- Assign key extruded components to product profile
- Estimate mass and quantity per vehicle by component

### 2. Product Value per Vehicle (VPV)

- Identify material pricing and estimate % of component price related to material
- Calculate component pricing based on mass and material %
- Validate component mass and pricing with similar current UWH components
- Estimate aluminum usage % of identified parts by powertrain type (ICE, HEV, PHEV, BEV)
- Calculate total VPV by powertrain type (ICE, HEV, PHEV, BEV)

### 3. Identify 2025+ vehicle launches & production volume

- Identify upcoming vehicle launches (2025+) and associate production volume
- Forecast new launch production volume by powertrain type (ICE, HEV, PHEV, BEV)

### 4. Addressable Aluminum Extrusion Market

- Forecast addressable aluminum extrusion market (VPV x new launch production volume) by powertrain type and OEM group





## Aluminum Extrusion Addressable Market *Key Components*



### 1. Identify Key Components

- Identify key aluminum extruded components
- Assign key extruded components to product profile
- Estimate mass and quantity per vehicle by component

Product Profile	Component	Qty.	Extrusion Unit Mass (lbs.)	Extrusion Total Mass (lbs.)
Complete Battery Enclosure	Frame & structure, cooling system, tray / lower cover	1	95	95
Body & Chassis	Cross Car Beam	1	10	10
	Cross Members	2	13	26
	Radiator Support	1	5	5
	Subframe / Engine Cradle	1	20	20
	Rockers	2	5	10
	Roof Header & Rails	4	2	8
	Front Side Member	2	5	10
Crash Management	Rear Side Member	2	5	10
	Bumper Beam	2	11	22
	Crash Can	4	5	20
	Side Impact Beams	4	5	20
	<b>Total</b>	<b>26</b>	<b>181</b>	<b>256</b>





## Aluminum Extrusion Addressable Market *Value per Vehicle*



### 2. Product Value per Vehicle (VPV)

- Identify material pricing and estimate % of component price related to material
- Calculate component pricing based on mass and material %
- Validate component mass and pricing with similar current UWH components
- Estimate aluminum usage % of identified parts by powertrain type (ICE, HEV, PHEV, BEV)
- Calculate total VPV by powertrain type (ICE, HEV, PHEV, BEV)

Electrified Powertrains	2022	2023	2024	2025	2026	2027	2028	2029	2030
Complete Battery Enclosure	90%	89%	87%	86%	85%	84%	82%	81%	80%
Body & Chassis	65%	66%	67%	69%	70%	72%	75%	77%	80%
Crash Management	90%	91%	91%	92%	93%	93%	94%	94%	95%

ICE Powertrains	2022	2023	2024	2025	2026	2027	2028	2029	2030
Complete Battery Enclosure	0%								
Body & Chassis	50%	51%	52%	54%	55%	56%	57%	59%	60%
Crash Management	75%	76%	77%	79%	80%	81%	82%	84%	85%

Product Profile	Extrusion Total Mass (lbs.)	Mat'l (\$/lb.)	Mat'l %	BEV Value	ICE VPV	HEV VPV	PHEV VPV	BEV VPV
Complete Battery Enclosure	95	\$1.50	40%	\$356.25		\$89.06	\$118.75	\$356.25
Body & Chassis	99		30%	\$495.00	\$495.00			
Crash Management	62		28%	\$332.14	\$332.14			
<b>Total</b>				<b>\$1,183.39</b>	<b>\$827.14</b>	<b>\$916.21</b>	<b>\$945.89</b>	<b>\$1,183.39</b>



## Aluminum Extrusion Market New Launch (2025+) Production Volume

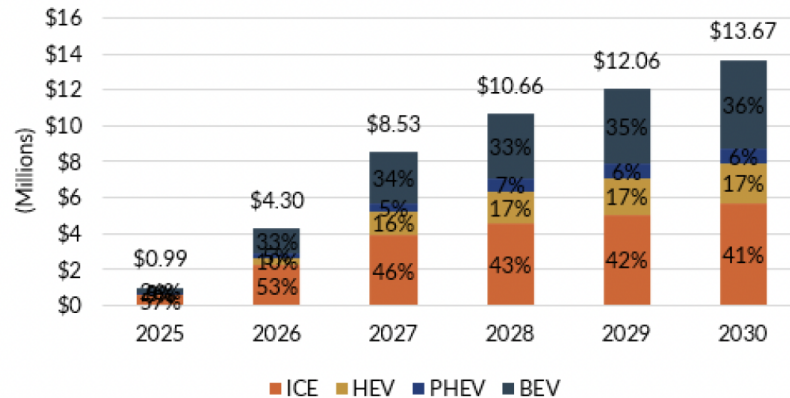


Upcoming launch activity driven by the transition to electrification and replacement of current models—Detroit 3 and Asian (Japanese 3, Others) OEMs represent ~80% of new launch production volume in 2029

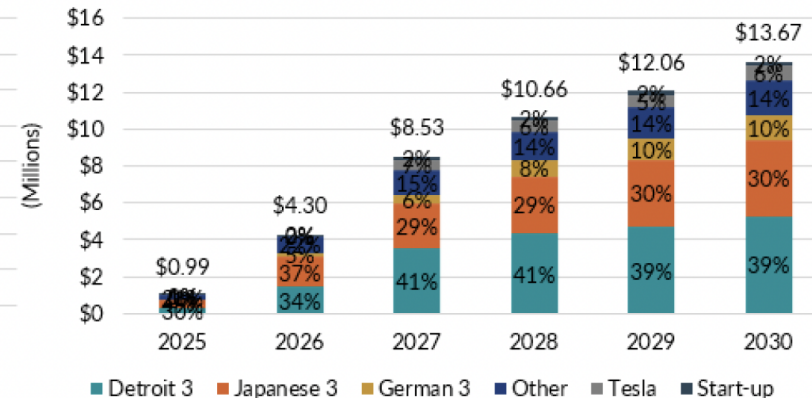
### 3. Identify 2025+ vehicle launches & production volume

- Identify upcoming vehicle launches (2025+) and associated production volume
- Forecast new launch production volume by powertrain type (ICE, HEV, PHEV, BEV) and OEM group (Detroit 3, Japanese 3, German 3, Other, Start-up)

N.A. Vehicle Production—Launches 2025+ by Powertrain



N.A. Vehicle Production Launches 2025+ by OEM Group





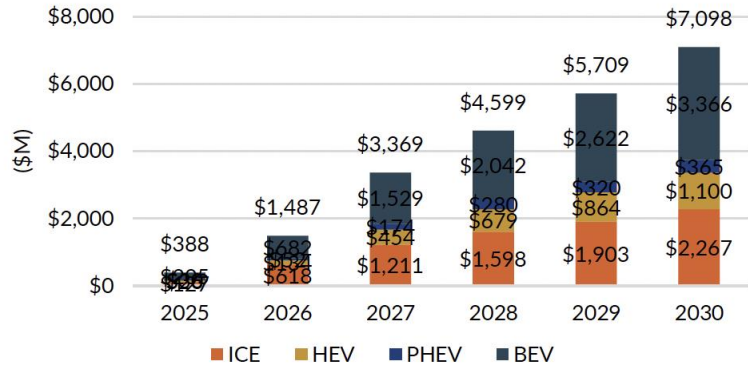
## Aluminum Extrusion Addressable Market New Launch (2025+) Production Volume and Market Size



### 4. Addressable Aluminum Extrusion Market

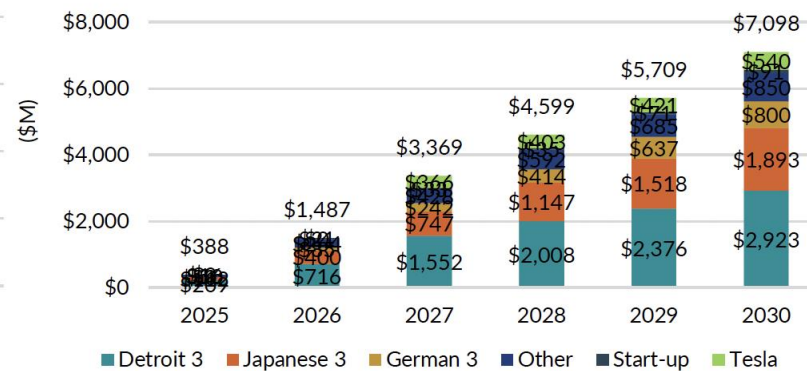
- Forecast addressable aluminum extrusion market (VPV x new launch production volume) by powertrain type and OEM group

Addressable N.A. Aluminum Extrusion Market by Powertrain



Powertrain	2025 (\$M)	2030 (\$M)	'25-'30 CAGR
ICE	\$127	\$2,267	78%
HEV	\$26	\$1,100	111%
PHEV	\$30	\$365	65%
BEV	\$205	\$3,366	75%
<b>Total</b>	<b>\$388</b>	<b>\$7,098</b>	<b>79%</b>

Addressable N.A. Aluminum Extrusion Market by OEM Group



OEM Group	2025 (\$M)	2030 (\$M)	'25-'30 CAGR
Detroit 3	\$209	\$2,923	69%
Japanese 3	\$112	\$1,893	76%
German 3	\$0	\$800	-
Other	\$50	\$850	76%
Start-up	\$16	\$91	41%
Tesla	\$0	\$540	-
<b>Total</b>	<b>\$388</b>	<b>\$7,098</b>	<b>79%</b>

# Environment and Sustainability

- Contributing to the EV Market with recyclable aluminum since 2012
- EV Market now more than 50% of our business
- Pursuing ASI Certification
- Co-developing structural alloys using 75% post consumer aluminum
- Developing emission reduction goals
- Continuous effort to reduce scrap and waste – this is our largest contribution to emission reduction – a win-win





# Our People Make Us What We Are



# Excellent Potential for Profitable Growth

UACJ Whitehall is in an excellent competitive position

- A highly capable team

- A leader in structural extrusion

- Excellent quality and customer relationships

- Recognized by OEM's – traditional and EV

UACJ Whitehall will be participating in an exploding market for automotive structural aluminum components.