

2021 Market Analysis Review

CIMdata PLM Market & Industry Forum—September 2021

2021 Market Review

PLM Market & Industry Forum

A CIMdata PLM Leadership Event

September 2021

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Global Leaders in PLM Consulting
www.CIMdata.com

#plm4um

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Our Mission...

Strategic management consulting for competitive advantage in global markets

CIMdata is the leading independent global strategic management consulting and research authority focused exclusively on PLM and the digital transformation it enables.

We are dedicated to maximizing our clients' ability to design, deliver, and support innovative products and services through the application of PLM.

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Key Takeaways

2021 Market Review – September

- It has only been three months since our last Forum session in June but a lot has happened
- Mergers & Acquisitions (M&A) at a record pace in 2021
- Many leading companies very active, especially Accenture
- Market leaders in manufacturing segments are aggressively joining the PLM Economy
- The H1 financial results are outstanding, mostly across the board
- The future of PLM looks bright

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Agenda

2021 CIMdata PLM Market & Industry Forum – September 2021 Market Review

- 2021 Market News
- H1 2021 Market Results
- Concluding Remarks
- Q&A

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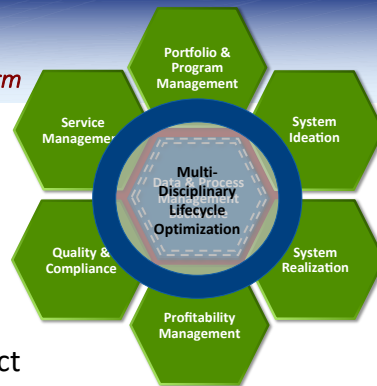
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PLM – CIMdata’s Definition

Digital transformation of the lifecycle—enabled by a product innovation platform

- Strategic business approach
 - **NOT** just technologies
 - Consistent set of business solutions
- Collaborative creation, use, management & dissemination of product related *intellectual assets*
 - All product/plant definition information – the virtual product
 - AEC, MCAD, EDA, ALM, SE, requirements, simulations, analytics, portfolio, formulas...
 - All product/plant process definitions – the virtual processes
 - Processes that plan, design, produce, operate, support, decommission, recycle...
- An innovation platform that supports the extended enterprise
- Spans the full lifecycle, from idea/concept through life

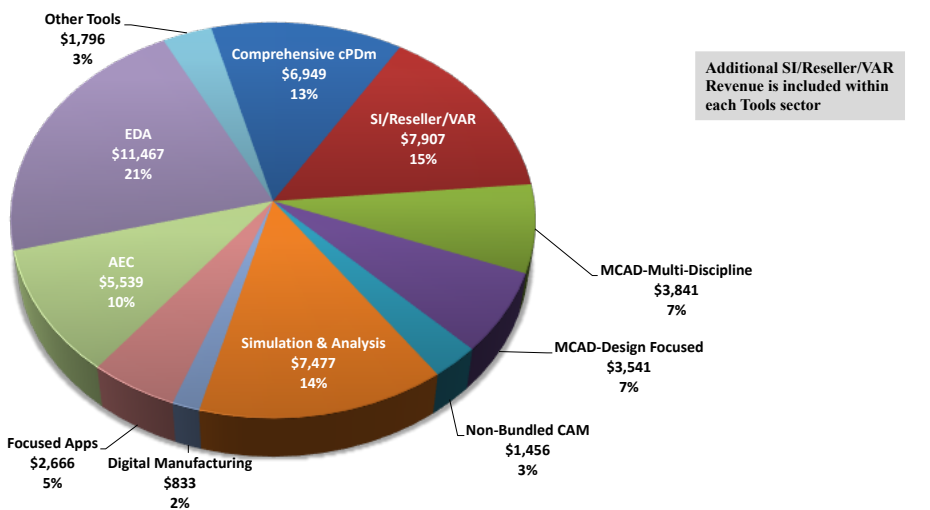


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PLM Investments by Segment

Market grew by 3.81% to US\$53.5 Billion in 2020



Revenues presented are CIMdata estimates

Estimates are US\$ (Millions)



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The Industrie 4.0 Vision

4th Industrial Revolution focused on creating smart products, procedures, and processes

The diagram illustrates the Industrie 4.0 vision with a central hub labeled 'CPS-platforms' (Cyber-Physical Systems) connected to several key areas: 'Internet of People' (top), 'Internet of Things' (bottom left), 'Internet of Services' (bottom right), 'Smart Grid', 'Smart Factory', and 'Smart Building' (middle left). It also shows connections to 'Social Web' (top right), 'Business Web' (middle right), and 'Smart Home' (bottom left). The 'Internet of People' and 'Internet of Things' are both labeled with '10⁹-10⁸'. The 'INDUSTRIE 4.0 Platform' logo is in the top right corner.

In a “smart, networked world”, the Internet of Things and Services will make its presence felt in...five key areas identified for action in 2009: climate/energy, mobility, health, security and communication.

In the manufacturing environment, vertical networking, end-to-end engineering and horizontal integration across the entire value network of increasingly smart products and systems is set to usher in the fourth stage of industrialisation – “Industrie 4.0”.

Recommendations for implementing the strategic initiative INDUSTRIE 4.0, Final report of the Industrie 4.0 Working Group

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Significant Mergers & Acquisition (M&A) Activity

Already surpassed pre-pandemic levels (1 of 4)

- Over 130 acquisitions tracked through September 14, 2021
- More than 2020 and 2019
- Many of the market leaders active
 - Accenture
 - Atos (10), including IDEAL GRP, Nimbix , Processia
 - Bentley Systems (9) with one acquisition, Seequent, making two purchases of their own
 - Siemens (6) including SupplyFrame and FORAN from the Sener Group
 - Lectra (3) including Gerber and Gemini CAD Systems
- Addnode continues their march from the Nordics with Budsoft (Poland)

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Significant Mergers & Acquisition (M&A) Activity

Already surpassed pre-pandemic levels (2 of 4)

- Accenture very active in M&A over the last several years
- See melding new acquisitions into Accenture as a core competence
- Significantly contributing to
- Sped up their buying over a very busy last few years
 - 39 acquisitions or investments, not all in Industry X practice
 - Many geographies in focus, with multiple pick-ups, e.g., the UK, France
 - Building their bench in Salesforce, SAP Cloud, Oracle Cloud
 - Bought DI SQUARE PLM and ALM business in Japan

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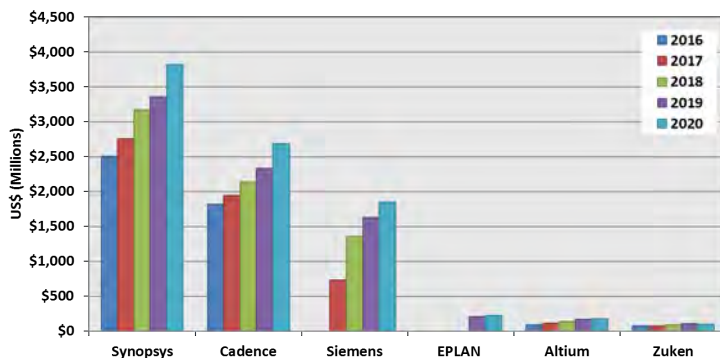
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Significant Mergers & Acquisition (M&A) Activity

Already surpassed pre-pandemic levels (3 of 4)

- Smart connected products get their smarts and connectivity from ECAD and EDA solutions
- Biggest deal to date: Siemens and Mentor Graphics (in 2017)
- Altium more focused on printed circuit board (PCB)
- Autodesk publicly courted Altium in 2021



Revenues presented are CIMdata estimates

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Significant Mergers & Acquisition (M&A) Activity

Already surpassed pre-pandemic levels (4 of 4)

- 6 June – Autodesk announces offer for Altium at 41.5% premium over stock price
- 8 June – Turned down, “...considerably “undervalues” its prospects.”
- 17 June – Altium management will continue to engage
- 18 July – Takeover talks ended, withdrew offer

"Autodesk has a long track record of disciplined strategic acquisitions. While we did verbally improve our initial proposal, we were unable to agree on the basis to advance discussions. We respect the leadership team at Altium and wish them the best with their business." Andrew Anagnost, Autodesk CEO

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Manufacturing Entrants in the PLM Economy

Everyone is on someone's digital thread, the built world and the things in it included (1 of 2)

- Trends in last five years for manufacturing-focused firms to invest in PLM
- Hexagon #9 among overall PLM market leaders
 - Intergraph, MSC Software, CAM businesses significant contributors
 - Three acquisitions in 2021 so far, including Infor EAM, a \$2.75 billion deal; includes an expansive partnership between Infor/Koch Industries (Koch will own 4.9%)
 - Also acquired CADLM, a French specialist in CAE, AI/ML
- Sandvik
 - Pursuing a broader, Industry 4.0 vision tool builder built a 12.3% CAM market share (#3 overall) with three CAM acquisitions in 2020-2021; continuing to acquire
 - CGTech
 - Cimatron
 - CNC Software

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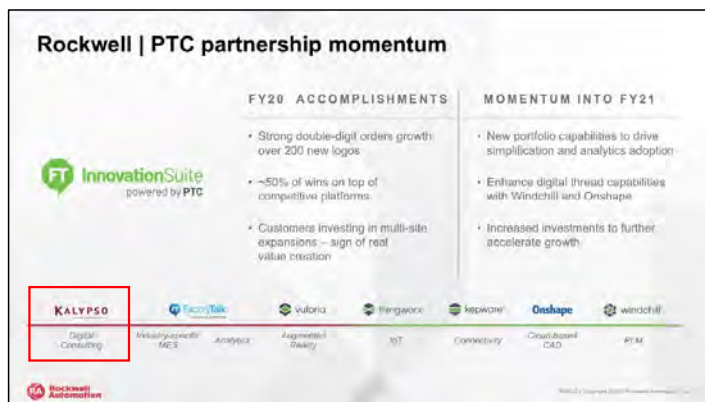
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Manufacturing Entrants in the PLM Economy

Everyone is on someone's digital thread, the built world and the things in it included (2 of 2)

- Rockwell Automation
 - Expanding PTC alliance
 - Acquired Plex
 - Connect with Ansys Twin Builder for manufacturing and operations
 - Kalypso (2020) and MESTECH Services (2019) bring needed services capabilities
- Schneider Electric
 - AVEVA (2017), IGE+XAO (2018), and OSIsoft (2021)



From the Rockwell Automation Annual Investor Conference, November 2020

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The CIMdata PLM Market Analysis Report

Major PLM Foresight deliverables, a growing MAR series



- CIMdata PLM Market Analysis Report
 - CIMdata Executive PLM Market Report
 - CIMdata PLM Industry Review and Trends Report
 - CIMdata PLM Market and Solution Provider Analysis Report
 - CIMdata PLM Market Geographic Analysis Report
 - CIMdata PLM Market Industry Analysis Report
- Country reports for the Brazil, China, Germany, India, Japan, Russia, South Korea, Italy, United Kingdom, France, and the United States
- CAM MAR (29th year)
- Simulation & Analysis (S&A) MAR

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2020 Market Results

Results by segment (US\$ Millions) mostly positive

Segment	2020 Revenues	YoY Growth
cPDM Comprehensive Technology Providers	\$6,949.2	4.4%
cPDM-Focused Applications	\$2,665.8	3.9%
Digital Manufacturing	\$833.0	-6.0%
SI/Reseller/VAR	\$7,906.6	-3.4%
Tools		
MCAD-Multi Discipline	\$3,841.3	-2.2%
MCAD-Design Focused	\$3,541.3	0.7%
Non-Bundled CAM	\$1,455.9	-7.6%
Simulation & Analysis	\$7,477.2	4.2%
Other Tools (e.g., ALM)	\$1,796.2	7.6%
EDA	\$11,467.3	11.6%
AEC	\$5,539.0	9.1%
Total	\$53,472.9	3.81%

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Market Forecasts

For 2021 (US\$ Millions) and 5-year compound annual growth rate (CAGR)

Segment	2021 Estimate	YoY Growth	5 Year CAGR
cPDM Comprehensive Technology Providers	\$7,419.22	6.8%	7.5%
cPDM-Focused Applications	\$2,829.79	6.2%	7.1%
Digital Manufacturing	\$877.16	5.3%	6.8%
SI/Reseller/VAR	\$8,317.78	5.2%	6.3%
Tools			
MCAD-Multi Discipline	\$3,889.27	1.3%	2.8%
MCAD-Design Focused	\$3,877.68	9.5%	9.7%
Non-Bundled CAM	\$1,521.47	4.5%	5.8%
Simulation & Analysis	\$8,082.88	8.1%	10.0%
Other Tools (e.g., ALM)	\$1,936.35	7.8%	7.9%
EDA	\$12,384.68	8.0%	8.4%
AEC	\$6,325.56	14.2%	14.7%
Total	\$57,461.78	7.5%	8.5%

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H1 2021 Performance of Public Companies

Based on the quarterly results presented this year, reporting years vary

Company	Original 2021 Guidance(M)	YoY Growth*	H1 YoY Growth	Revised Guidance
Altair	\$502 - \$510	7.7%	17.4%	\$512 - \$518
Ansys	\$1,770.5 - \$1,855.5	7.8%	17%	\$1,818.9 - \$1,868.9
AspenTech	\$704 - \$754	2.0%	8.4%	\$705 - \$729
Autodesk	\$4,265 - \$4,345	14%	13.9%	\$4,875 - \$4,975
Cadence	\$2,860 - \$2,920	7.7%	16.6%	\$2,925 - \$2,965
Dassault Systemes	€4,715 - €4,765	12.6%	5.9%	€4,745 - €4,790
PTC	\$1,690 - \$1,730	11.6%	26.2%	\$1,733 - \$1,763
Synopsys	\$4,000 - \$4,050	9.2%	14%	\$4,190 - \$4,220
Nemetschek	"High Single Digits"	---	12.5%	12 - 14%
Trimble	\$3,299.7-\$3,399.7	6.7%	20%	\$3,350 - \$3,650
Hexagon	€4,600 - €5,100	13.0%	15%	€4.6 - €5.1 billion

*Growth estimated from midpoint

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Concluding Remarks

M&A at a fever pitch, strong H1 growth, and a bright future for the PLM Economy

- A lot has happened since our last Forum session in June
- Mergers & Acquisitions (M&A) at a record pace in 2021
- Accenture, Atos, and many others bulking up through M&A
- Market leaders in manufacturing segments are aggressively joining the PLM Economy – everyone is one someone's digital thread
- The H1 financial results are outstanding, mostly across the board
- The future of PLM looks bright!

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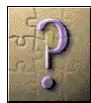
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Q&A

Let's hear what's on your mind?



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