

Cases of Critical Chain Project Management implementation worlwide



Industry	Project Type	Company	Results	Reference
Capacity expansion	Chemical industry	Aarti Industries	Ambitious capacity expansion projects were finished on time. 30%-40% improvement in projects timeline and some teams doubled their speed of execution without adding resources.	www.realization.com
Power	Engineering	ABB AG, Power Tech. Division	Throughput increase over 33% from 300 Bays to 430 Bays per year.	www.realization.com
Power	Engineering	ABB Cordoba	Engineering cycle time reduced from eight months to three months.	www.realization.com
Power	Repair	ABB Halle	Number of projects completed per year increased from 42 to 54, >25%.	www.realization.com
Construction	Theme park design, install, and commission	Action Park Multiforme Grupo	Increased number of projects completed from 121 to 153.	www.realization.com
Aeronautics	All types of projects	Aerosud	Control of the portfolio of new product development projects in less than a month. >98% of projects delivered on time. Industrialization projects lead time reduction of >30%	Marris Consulting
Aeronautics	Aircraft Maintenance	Air Nostrum	Reduction of the average delay by 10% with greater number of aircraft reviewed.	CMG Consultores
Telecommunication	ETO satellites	Airbus Defense and Space,Telecommunicatio ns Division	+33% in Throughput (installation drawings per week) & -85% engineering cost overrun	www.realization.com
Communications	Product development	Airgo Networks (Qualcomm)	Cycle time improved from 19 months to 8 months.	www.realization.com
Airpot terminal administration and management	Various building projects	Airplan (Colombia)	2 pilot projects : Control tower project & project of terminal extension finished on time	www.tocpractice.com
Aluminum	Engineering	Alcan Alesa Technologies	Number of projects completed increased over 30%.	www.realization.com
Communications	Telecom switch design	Alcatel-Lucent	Increased throughput by 45% per person.	www.realization.com
Software	Software development	Alna Software	Cycle time reduced by 25% and project completions increased 17%.	www.realization.com
Automotive	Product development	Alpine Electronics	Delivery dates compliance rate went from 22% to 88%	www.japan-toc-association.org

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Communications	Customized software development	Amdocs	14% increase in revenue/man-month; 20% reduced cycle time.	www.realization.com
Research	Research	Antarctic Support Associates	Project fully delivered on time VS 4 months late as anticipated (prior to CCPM implementation). Several thousand dollars saved and retained for ASA	www.criticalchain.co.uk
MRO	Helicoper Maintenance (For Flight Schools)	Army Fleet Support	32% reduction in CH-47 turnaround time. 52% reduction in UH-60 turnaround time. 8 aircraft returned to customer (\$90M in cost avoidance). 18,000 sq ft of hangar space freed up (\$2M in cost savings).	www.realization.com
Glass Manufacturing	Engineering (ETO + NPD)	Asahi Seisakusho	+23% trhoughput (number of projects completed per month), Overtime rate reduced by 35%, +50% increase in revenues with ¥50M in profits	www.realization.com
Foundry industry	Desing & manufacturing of tools	Aurrenak	Service level from <50% to 95%	CMG Consultores
IT	IT installation	Avrio (Hitachi Data System)	Remote site installation time reduced by 54%	www.exepron.com
Manufacturing	Boiler installation	Babcock	Actual versus planned went from +200% to -20%. Between 20% and 55% reduction of manhours. 40% reduction of cycle time	www.tocpractice.com
Aerospace	Aircraft manufacturing	BAE/ RAAF	Reduction of TAT (TurnAround-Time) by 43%	www.exepron.com
Building	Civil Engineering	Balfour Beatty	Project delivered 9.5 weeks earlier than estimated, which was 45 weeks earlier than actually contracted (the contracted delivery date was the client's deadline) - in spite of increased scope of work	www.goldratt.co.uk
Energy	Installation	Beta Engineering	Greater visibility, increased accountability, reduction of cost & duration & better relationship with subcontractors	ProChain Conference
Resource	Engineering	BHP Billiton	25% reduction in hours needed to complete project and project finished three weeks early.	www.realization.com
Aerospace	Engineering	Boeing (Military)	Reduced required wing assembly time by 50%.	www.goldratt.com
Aerospace	Design and assembly	Boeing Space & Intelligence Systems	Doubled throughput and decreased cycle time by 28%.	www.realization.com
Aeronautics	Training System	Boeing T45	Projects finished 1.5 months ahead of schedule. Hardware/Software integration finished 32 days ahead of schedule.20% cost savings in design development phase.Realized additional \$12M in ECP work.	www.realization.com
Aerospace	Engineering	Boeing Wing Assembly	On schedule, under budget. Reduced required wing assembly time by 50% (F-22).	www.golddratt.com
Machine manufacturing	Packaging line development	Bosch Packaging Systems	100% on-time delivery. +27% turnover. 30% cycle time reduction for projects >2500 hours	www.japan-toc-association.org
Communications	IT Professional Services (eg: website)	Bowne & Co (Rapid Solution Group)	Due date performance improved by 30%, lead times reduced by 25%	www.realization.com

Energy	Cleanup	BP Oil	Saving of over \$700 million with accelerated project and production required to meet project needs.	www.pinnacle-strategies.com
Power	Engineering	C.N. Cotrentes	Increased due date performance from 60% to 95%.	www.realization.com
Software	Flight simulation systems	CAE USA	Reduced cycle times by two to four months, with a \$37 million increase in the number of profitable programs.	www.goldratt.com
IT	IT	Caesar	95% of projects on time.	www.tocico.org
Construction	New hospital facility	Californie Department of Corrections	Built and opened new mental hospital in 6 months that other approaches failed to do in 12 months.	www.vectorstrategies.com
Software	Systems integration and software development	Caser Seguros	90% of projects on time (VS 30% before CCPM) & a 25% llead-time reduction	CMG Consultores
Software	IT	Celsa Group	Increased completion of SAP projects from 15 to 20 per month.	www.realization.com
Power	Engineering	Central Nuclear Almaraz Trillo	Increased number of projects completed from 19 to 24-30 per month.	www.realization.com
Power	Engineering	Central Nuclear Cofrentes	95% projects delivered on time (VS 60%). +30% of projects completed.	CMG Consultores
Gate and Access Automation	Engineering R&D	Centurion Systems	After 3 years of CCPM, Number of projects completed multiplied by 6 with same team	www.tocpractice.com
Medical	IT	Charles River Labs	Went from 55% projects on-time delivery to 92%.	www.criticalchain2020.com
Automotive	Product development	Chrysler	Cycle time for prototype builds reduced from 10 weeks to 8 weeks.	www.realization.com
Health Care	New Product Development	CIBA Vision	Project execution synchronized across multiple countries to get it in control and on track to deliver on time	www.realization.com
Automotive	New Product Development	CIE Automotive	80% of tool projects are completed on time. Reduction of the delivery time by 33%. The term of the prototype programs is reduced by 27%.	CMG Consultores
Iron ore mining	Truck overhauls	Cliffs Natural Resources Michigan Operations	Overhaul duration reduced by 67%	www.sinclairassociates.com
Financial services	Software development	Confluence UK	95% of projects on time.	www.criticalchain.co.uk
Building	Bank construction	Construtora Veloso	Triple revenues in 2 years. 98% on-time delivery	www.tocico.org

Audio & video consumer electronics	New Product Development	Crystal Acoustics	20% reduction in time-to-market	LinkedIn - Crystal Acoustics
Biotechnology & biotherapy		_	Projects delivered 30% faster. >80% on-time delivery. Up to 300% increase in throughput.	ProChain conference
Building	SAP Implementation	Daiwa House	2011 Results after 1st implementation : 26% cycle time reduction for SAP module implementation 2015 Results after 4 years CCPM : +160% of completed projects per year - compared to 2011. >25% gain on project duration for 58% of projects. Almost all projects are delivered on time.	www.realization.com
Biotechnology	Engineering	Danisco (Genencor)	Increased from 20% projects on time to 87%.	www.realization.com
Aerospace	Repair	Delta Air Lines, Inc.	23% increase in engines produced per year; 30% reduction in engine turnaround time.	www.realization.com
Aeronautics	MRO		+100% more tasks within 12 months feed into the system and synchronized across all project teams. Teams' performance increased up to 278%.	www.criticalchain2020.com
Pharmaceutical	Product development	I Dr. Reddy's Laboratories I	83% increase in projects completed in first 12 weeks; 75% increase in new product launches year over year.	www.realization.com
Energy	Installation	Duke Energy	Doubled thoughput in 3 months	www.realization.com
Semiconductor	Design and manufacturing	e2V Semiconductors	Cycle time reduced from 38 months to 23 months.	www.realization.com
Communications	Network design and installation	elkcom	On-time delivery improved from 75% to 98%+. Average cycle time was reduced from 70 days to 30 days.	www.realization.com
Communications	IT	eIRcom	From 40% to 90%+ of projects on time; lead time reduced from 150 days to 30 days.	www.toc-goldratt.com
Defense	Electronics	Elbit Systems	Within the Test Equipment department, 70% of on-time or <1-month delay delivery	www.tocpractice.com
Pharmaceutical	Development of Document Management Systems	Eli Lilly and Co	Projects schedule up to 12 months, reduced to 4 months	www.pmiwdc.org
Pharmaceutical	Product development	Eli Lilly and Co	On-time delivery of 100% with Critical Chain versus 60% with traditional project maganement	www.prochain.com
Refrigerator Compressing Manufacturing	Product development	Embraco	+100% throughput in 4years (number of completed projects per year) & 11% lead time reduction	www.realization.com
Aerospace	MRO	l Hmbroor	Aircraft Turn Around Time cut by more than half (from >10 weeks to 5 weeks). Increase of mechanic's productivity by 70%	www.marris-consulting.com
Aerospace	New Product Development		New aircraft developped and launched earlier than expected, over specification and under budget. 2019 PMI's Best Project of the Year.	www.criticalchain2020.com

Manufacturing plant	emcocables	Reduced 11 -month average project duration to 7 months. Increased revenue by 55%, received 4 months earlier.	www.realization.com
TGV station	Emesa	€ 5 million penalty avoided.	www.realization.com
Product development	Emmerson	100% on-time delivery. 75% cycle time reduction	EM Strasbourg 2016 TOC conference
R&D	Endress + Hauser	+270% throughput, 60% higher reliability	www.a-dato.com
Helicopter manufacturing and maintenance	Erickson Air-Crane	Increased projects on time from 33% to 83%.	www.realization.com
Increase of capacity	Erlanger children's hospital (USA)	Unit net income inscreased by 8%. \$2,8 million-unit expansion project avoided.	www.exepron.com
manufacturing of new	Fagor Automotion	Service level from 60% to 95%	CMG Consultores
motion automation systems	Festo AG & Co. KG	The throughput times of the projects are shortened by 10 to 25%	www.vistem.eu
Engineering	FMC Technologies	50% reduction in test and final assembly time.	www.pinnacle-strategies.com
Repair	French Air Force	Returned two out of five aircraft to Air Force (€ 300 million value). 15% cycle time reduction, 15% increase in output with 13% fewer resources; 22% reduction in support shops' cycle time.	www.realization.com
Engineering and nanufacturing of safety parts	Fuchosa	> 80% of projects delivered on time (VS <50% before CCPM). Increase in the number of completed projects and cost reduction.	CMG Consultores
Biotechnology Plant Engineering	Genecor	15% cycle time reduction, 15% increase in output with 13% fewer resources; 22% reduction in support shops' cycle time.	www.realization.com
Desing & manufacturing of furniture	Grupo Pomar	90% in time delivery (VS 60%). 25% reduction in the average delivery time of projects.	CMG Consultores
Efficiency improvement	Guarantee Fund Lithuania	95% reduction of pending applications. Application lead time reduced by 88%	www.tocico.org
House construction	Habitat For Humanity	A 4-Bedroom House assembled in 3 hrs 44 min & 59 sec in NZ (VS previous record of 4 hrs 39 min &8 sec in Tennessee) https://www.youtube.com/watch?v=wHRBeQbvqxw	www.criticalchain.co.uk
Product development	Hamilton Beach Brands, Inc.	Increased from 34 to 52 new products in first year, 70+ in second year with no increase in head count.	www.realization.com
Plant construction	Harris Semiconductor	Began full high-tech production in 13 months, instead of 54-month industry norm.	www.goldratt.com
	TGV station Product development R&D Helicopter manufacturing and maintenance Increase of capacity Development and nanufacturing of new products motion automation systems Engineering Repair Engineering and anufacturing of safety parts Biotechnology Plant Engineering esing & manufacturing of furniture ficiency improvement House construction Product development	TGV stationEmesaTGV stationEmesaProduct developmentEmmersonR&DEndress + HauserHelicopter manufacturing and maintenanceErickson Air-CraneIncrease of capacityErlanger children's hospital (USA)Development and nanufacturing of new productsFagor Automotionmotion automation systemsFesto AG & Co. KGEngineeringFMC TechnologiesRepairFrench Air ForceEngineering and anufacturing of safety partsFuchosaBiotechnology Plant EngineeringGenecoresing & manufacturing of furnitureGuarantee Fund LithuaniaHouse constructionHabitat For HumanityProduct developmentHamilton Beach Brands, Inc.	TGV stationEmesa€ 5 million penalty avoided.Product developmentEmmerson100% on-time delivery. 75% cycle time reductionR&DEndress + Hauser+270% throughput, 60% higher reliabilityHelicopter manufacturing and maintenanceErickson Air-CraneIncreased projects on time from 33% to 83%.Increase of capacityFrlanger children's hospital (USA)Unit net income inscreased by 8%. S2,8 million-unit expansion project avoided.Development and nanufacturing of new productsFagor AutomotionService level from 60% to 95%EngineeringFMC Technologies50% reduction in test and final assembly time.RegairFrench Air ForceReturned two out of five aircraft to Air Force (€ 300 million value). 15% cycle time reduction, 15% increase in output with 13% fewer resources; 22% reduction in support shops' cycle time.Ibiotechnology Plant Engineering and anufacturing of safety of furnitureSelfw of projects delivered on time (VS <50% before CCPM). Increase in the number of completed projects and cost reduction.Ibiotechnology Plant Engineering of furnitureGenecor15% cycle time reduction. 15% increase in output with 13% fewer resources; 22% reduction in support shops' cycle time.Sing & manufacturing of furnitureGrupo Pomar90% in time delivery (VS 60%). 25% reduction in the average delivery me of projects.Heisecy inprovement of furnitureGuarantee Fund LithuaniaA-4-Bedroom House assembled in 3 hrs 44 min & 59 sec in NZ (VS previous record of 4 hrs 39 min & 88 sec in Teanessee) https://www.youtube.com/watch/v=wtIRBeQbyrgywhouse constructionHabitat For Hunanity

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Consumer goods	Product development	Heineken, Spain	20% farter time to market. Improved projects on time from 90% to 98%.	www.realization.com
Data Security and Lossless Compression IP cores	Software integration	Helion Technologies	40% increase in IT integration Throughput in 4 months. 97% of projects finished on time	www.exepron.com
Aerospace	MRO	Helisota	Went from 20 aircrafts/year to 40/year. Reduction of Turn Around Time by 52%	www.exepron.com
Food industry	Installation maintenance & construction	Hi Tech Installation Ltd	Increased understanding of projects structure and visibility on the projects portfolio. Better performance: on-time, on budget & on-scope delivery.	www.exepron.com
Consumer goods	Product development	HP Digital Camera Group	Improved new products from 6 in 2004 to 15 launched in 2005.	www.realization.com
Construction	New Hotel projects	Hyatt Hotels	Execution rate was doubled through synchronization between 40 contractors, vendors and consultants	www.realization.com
Industry	New Product Development	Holight	Number of projects completed per year multiplied by 3, duration of projects divided by 3	www.agilea.fr
Aeronautics	Engines accessories MRO	Iberia Mantenimiento	20% improvement in the number of exits and 40% reduction in the number of interrupted equipment.	CMG Consultores
Semiconductor	Engineering	Ismeca Semiconductor	25% reduction in cycle time, from 84 days to 64 days.	www.realization.com
Aeronautics	Aircraft MRO	Israeli Aircraft Industries	From a 3-month TAT per Aircraft Check D Visit to a 2-week TAT	www.criticalchain.co.uk
Aeronautics	Engines MRO	ITP	Reduction of 21% of the average term of all projects and increase of the service level to 90%.	CMG Consultores
Automotive	Engineering and manufacturing of molds	JAE	90% of projects delivered on time. Reduction of average delivery times by 50%.	CMG Consultores
Manufacturing	Product development	Johnston Sweepers Ltd	90% on-time delivery	www.tocpractice.com
Building	Bridge building	Juntos	On Design Department : Due Date Performance increased by 65%, overtime reduced by 20%, subcontractor costs reduced by 40% and CT reduced by 50%	www.tocpractice.com
Building	Building construction	Kimly Construction Pte Ltd	30% reduction in confidence cycle, better alignment of departments & subcontractors involved in various project stages, ability to assess the impact of potential changes	GoldrattInstitute
Consumer goods	New Product Development	La Fabril	Out of 74 on-going projects, 6 are running late.	www.exepron.com
Building	Shipbuilding	Larsen & Toubro Shipbuilding	28-month project instead of 33-month prevision, 5-month delay recovered	www.realization.com
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Design and manufacturing		Reduced design and engineering from 15 months to 9 months, production engineering from 9 months to 5 months.	www.realization.com
27-floor building construction		27-floor building construction, running late with due date several times postponed, came back under control according to schedule, delivered a month before planned.	www.exepron.com
Engineering and assembly	Lockheed Martin	Cut aircraft full finish time by 57% without reducing scope.	www.goldratt.com
IT	Lord Corporation	Found additional 60% capacity without hiring people.	www.vectorstrategies.com
Design	_	Went from major tool releases were always late to released on time for three years in a row.	www.realization.com
Production realization	Lucent Technologies	without additional resources, more than tripled development project capacity (5 to 17). Reduced new product introduction intervals by 50%. 100% of projects completed ahead of schedule.+30% revenue.	www.goldratt.com
MRO	Lufthansa Techniks Maintenance International	TAT decreased by 15-20%, mechanic's utilization rates increased by 45%	www.realization.com
Transformation and compliance with new technology and	Maasstad Ziekenhuis	Within 6 months, number of finished projects/month multiplied by 2, projects lead time cut by half and 95% of projects delivered on time, scope and budget	www.tocico.org
Advertising Product Development	Marketing Architects	+66% of completed projects in a time-period	www.realization.com
Product development	I Medfronic I	Improved software release intervals from 6 months to 9 months to every 2 months. Schedule slips on device programs cut by 50%.	www.realization.com
Product development	Medtronic, Europe	Reduced project cycle time from 18 months to 9 months. On-time delivery increased to 90%.	www.realization.com
New product development		Project average overrun went from 74% before CCPM implementation to 16% after CCPM implementation	www.tocpractice.com
Mold engineering development	Morioka Seiko Instruments Inc.	97% Due date performance in mold design & production	www.beingmanagement.com
Capacity expansion	Nakoda	A scheduled 14-month project expected to be finished in May 2013, project finished in January 2013 (10-month duration)	www.realization.com
IT	Nationale Nederlanden - Groupe Life	Due Date Performance went from 52% to 82%	www.tocico.org
Data Systems and S/W integration	NeoGrid	25% improvement in Time and Material Cost Recovery	www.exepron.com
Development and integration of technological solutions	ē ē	90% of projects delivered on time.	CMG Consultores
	manufacturing27-floor building constructionEngineering and assemblyITDesignProduction realizationMROTransformation and compliance with new technology andAdvertising Product DevelopmentProduct developmentNew product developmentMold engineering developmentCapacity expansionITData Systems and S/W integration of	manufacturingTechnologies Inc.27-floor building constructionLithuanian building companyEngineering and assemblyLockheed MartinITLord CorporationDesignLSI LogicProduction realizationLucent TechnologiesMROLutthansa Techniks Maintenance InternationalTransformation and compliance with new technology andMaasstad Ziekenhuis HospitalProduct developmentMedtronicProduct developmentMedtronicNew product developmentMeggerMold engineering developmentMorioka Seiko Instruments Inc.Capacity expansionNakodaITNationale Nederlanden - Groupe LifeData Systems and S/W 	manufacturingTechnologies Inc.months to 5 months.27-floor building constructionLithuanian building company27-floor building construction, running late with due date several times postponed, came back under control according to schedule, delivered a month before planned.Engineering and assemblyLockheed MartinCut aircraft full finish time by 57% without reducing scope.TTLord CorporationFound additional 60% capacity without hiring people.DesignLSI LogicWent from major tool releases were always late to released on time for three years in a row. without additional resources, more than tripled development project capacity (5 to 17). Reduced new product intervals by 50%. 100% of projects completed ahead of schedule.+30% revenue.Production realizationLufthansa Techniks Maintenance InternationalTAT decreased by 15-20%, mechanic's utilization rates increased by 45%Transformation and compliance with new technology and HospitalWeith 6 months, number of finished projects/month multiplied by 2, projects lead time cut by half and 95% of projects delivered on time, scope and budgetAdvertising Product DevelopmentMedironicImproved software release intervals from 6 months to 9 months to every 2 months. Schedule slips on device programs cut by 50%.Product developmentMadeds Sciko Instruments inc.97% Due date performance in mold design & productionMedironicMedgrer Instruments inc.97% Due date performance in mold design & productionMedironicMorioka Sciko Instruments inc.97% Due date performance went from 74% before CCPM implementation to 16% after CCPM implementation<

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Food industry	R&D	Λ Niagara Boming	Increase in patents, increase in number of projects completed and improved on-time delivery performance	www.exepron.com
Informatics	System integration provider	NTT DATA	+13% closed works. +31% productivity	www.japan-toc-association.org
Manufacturing	Tooling machine	Ogura	CCPM on welding process : +46% throughput ; +14% resource efficiency	www.japan-toc-association.org
Construction	building and civil works	OHL	80% of projects on time (VS 10% before CCPM)	CMG Consultores
Consumer goods	Sales	Oregon Freeze Dry	Increased number of sales projects completed per year from 72 to 171.	www.realization.com
Glass	Plant engineering	Owens-Illinois	Decreased cycle time from 6 months to 2.5 months.	www.realization.com
Health Care	Emergency room in hospital		Increased patients through emergency room from <70% within four hours to 100%, while patient load grew by more than 25%.	www.tocinternational.com
Pharmaceutical	Product development	P&G Pharmaceuticals	Increased projects completed per quarter from five to eight, and on-time rate from 55% to 90%.	www.realization.com
Shoe producer	New Product Development	Plasticaucho	On-time seasonal delivery for new models went from 37% to 78%	www.exepron.com
Aeronautics	MRO	I Pratt X7 W/hitney I	Completed additional three months work without expediting or increasing costs 75 % of projects completed on schedule & under budget. Reduction of multitasking.	www.goldratt.com
Financial services	Network delivery	I Radianz I	Project performance has gone from less than 20% to greater than 70% of projects delivered on time and to original scope.	www.criticalchain.co.uk
Rail	Repair	Railcare Wolverton, UK	100% on-time delivery. Increased from one project at a time to three.	www.realization.com
Marketing	Marketing/Publishing Support	Rapid Solutions Group	On-time delivery improved by 30%.Lead times reduced by 25%.	www.realization.com
Defense	New Product Development		Ontime deliveries, cost avoidance, reduction in project duration, etc example of Tracer Software : duration reduction, schedule went from 71 days to 24. \$1,8M cost avoidance	www.raytheon.com
Manufacturing	Engineering and manufacturing	Rex Materials Group	Lead time down from six weeks to 10 days.	www.cmg-toc.com
Communications	Product development	Ricoh	New teleconference system (P3000) delivered on-time without any compromis on the initial design	www.beingmanagement.com
Aerospace	Product development	Safran Group / Sagem	Reduced the average product development lead time of the entire portfolio by 50%.	www.marris-consulting.com
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Aerospace	Factory plant layout modification	Safran Group / Sagem	Total transformation of shopfloor layout. >80% of machines moved. Initial estimate 5 weeks, CCPM result 8 days with 4 hours of buffer unused.	www.marris-consulting.com
Aerospace	Product development	Safran Group / Sagem	Recovery plan for an overdue critical new product devlopment programme. 300 people, 6 facilities. Project deliverables promised to client recalculated and honoured.	www.marris-consulting.com
IT	Product Development	Seagate Technology	Cut New Product Development durations by half	www.stottlerhenke.com
Construction	Home building	Shea Homes	Reduced cycle time by 40% from 91 days to 56 days.	www.vectorstrategies.com
Electronics	Installation	Showa Denko Materials	Better visibility on priority and anticipation of risks. Reduction in project length duration. From poor OTD performance to >96% of projects delivered on-time	www,japan-toc-association,org
Engineering	Sensors for industrial applications	Sick AG	+20% throughput	www.a-dato.com
Power	Engineering	Siemens Generator Engineering	Went from 110 to 128 projects completed, with 30% increase in throughput.	www.realization.com
Industry	Engineering	Skeg Development Product	94% of throughput increase. Lead times divided by 2.	www.tocico.org
Power	Engineering	Skoda Power	30% increase in casings per year. Went from60% to 90% on-time delivery, with 20%+ faster cycle time.	www.realization.com
Textile	Design	Skye Group	100% due date performance with 30% reduction in lead times.	www.realization.com
Technology & communication	New Product Development	I Smartsky Networks I	Better anticipation and rection to potential problems & better communication and work efficiency with suppliers	www.exepron.com
Aerospace	Engineering	Spirit Aerosystems	Reduced cycle time from 12+ months to 7 months.	www.realization.com
Building	Infrastructure building		Building roads, tram route, tram/bus station and Wroclaw stadium in order to host the UEFA 2012, all delivered on-time	www.tocpractice.com
Industry	Development of Measurement tools & system	Synergis Technologies	Clear identification of bottlenecks in the system Ability to predict issues ahead of time - avoiding fire-fighting with proactive behaviour. Customers found new confidence in Synergis.Synergis now has a system capable of managing over 200 complex projects concurrently. Lead times are being slashed, and being canable of delivering jobs on time.	www.criticalchain.co.uk
Plastic	Mold Manufacturing		Overall CT decreased by average 20%, production CT decreased by average 30%, throughput increased by 30% (number of projects completed per month)	www.tocpractice.com
MRO	Aircraft Maintenance	TAM MRO	7% reduction in TAT, ontime performance and quality increased	UNITED STATES SECURITIES AND EXCHANGE COMMISSION - LATAM Airlines
MRO	Aircraft Maintenance	TAP Maintenance & Engineering	21 % reduction in TAT, avoidance of subcontracting expenses	www.mromarketing.aviationweek. com
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Plant maintenance	Tata Steel	68% faster project time; went from 11 -day planned shutdown to 5 days.	www.realization.com
Installation	Technology Integration Partners (TIP)	Drastic projects duration reduction, profit increased from 18,5% to 28,5% to 34,5% in 3 years.	www.exepron.com
Palm Oil processing facilities building	Tecnintegral	A 18-month project finished 8 days ahead of schedule	www.exepron.com
Product design and manufacturing	Tecnobit	Reduced project cycle times by 20%.	www.realization.com
Product development	I Lerumo Heart I	90% on-time delivery, project duration reduction, for similar projects from 2-year to 6-month duration	www.realization.com
Product development	Thales Alenia Space	Reduced the duration of the final part of the devlopment of a critical new satellite from 12 months to 5 months so as to finish on time.	www.marris-consulting.com
Building complex Platform Service Vessel	I Inomas-Sea Marine I	Average 8-12 months late deliveries on PSV deliveries. CCPM was implemented on 2 ships: 45 days late for one ship and on-time delivery for the second one	www.exepron.com
Engineering	ThyssenKrupp	63% gain in productivity; 15% more projects completed.	www.realization.com
New Product Development	I I omplast/I miniast I	Number of completed projects per year multiplied by 7 in 3 years. Improvement ofp rojects on-time delivery.	www.tocpractice.com
Custom design, manu- facturing and installation	I IRS Retrigeration I	Reduced average project cycle time from 75 days to 46 days, and increased project capacity by 30% with no added manpower.	www.tocca.com.au
Repair, Logistic, and testing	U.S. Air Force (multiple bases)	Turnaround time reduced 25-30%, multiple aircraft returned to Air Force.	www-realization.com
Army fleet maintenance	U.S. Army Fleet Support	32% reduction in CH-47 and 52% reduction in UH-60 turnaround time.	www.realization.com
Repair	U.S. Army, Corpus Christi	Throughput increased from 5.4 aircraft per month to 6.3.	www.realization.com
Repair and logistics	U.S. Marine Corps (Multiple bases)	Repair cycle cut by up to 50%, on-time delivery increased to 95%+, product rate increased.	www.realization.com
Capital Projects and Marketing and R&D Innovation		Implementation on a projects portfolio. Single project duration reducep up to 25%. Significant reduction of project lead time for the portfolio.	www.criticalchain.co.uk
Metallic constructions		85% on time delivery (VS <50% before CCPM)	CMG Consultores
WarfighterSystems Testing		30% reduction in cycle time measured over 900 projects.30% improvement in resource utilization.88% on-time delivery performance.	www.realization.com
	Installation Palm Oil processing facilities building Product design and manufacturing Product development Product development Building complex Platform Service Vessel Engineering New Product Development Custom design, manu- facturing and installation Repair, Logistic, and testing Army fleet maintenance Repair Repair and logistics Capital Projects and Marketing and R&D Innovation Metallic constructions	InstallationTechnology Integration Partners (TIP)Palm Oil processing facilities buildingTecnintegralProduct design and manufacturingTecnobitProduct developmentTerumo HeartProduct developmentThales Alenia SpaceBuilding complex Platform Service VesselThomas-Sea MarineEngineeringThyssenKruppNew Product DevelopmentTomplast/UniplastCustom design, manufacturing and installationTRS RefrigerationRepair, Logistic, and testingU.S. Air Force (multiple bases)Army fleet maintenanceU.S. Army, Corpus ChristiRepair and logisticsU.S. Marine Corps (Multiple bases)Capital Projects and Marketing and R&D InnovationURSSAWarfighterSystems TestingUS Air Force Operational Test &	Installation Technology Integration Partners (TIP) Drastic projects duration reduction, profit increased from 18,5% to 28,5% to 34,5% in 3 years. Palm Oil processing facilities building Tecnintegral A 18-month project finished 8 days ahead of schedule Product design and manufacturing Tecnobit Reduced project cycle times by 20%. Product development Terumo Heart 90% on-time delivery, project duration reduction, for similar projects from 2-year to 6-month duration Product development Thales Alenia Space Reduced the duration of the final part of the devlopment of a critical new satellite from 12 months to Smonths so as to finish on time. Building complex Platform Service Vessel Thomas-Sea Marine Average 8+12 months late deliveries on PSV deliveries. CCPM was implemented on 2 ships: 45 days late for one ship and on-time delivery for the second one New Product Development Tomplast/Uniplast Number of completed projects per year multiplied by 7 in 3 years. Improvement ofp rojects on-time delivery. Custom design, manu- facturing and installation facturing and installation TRS Refrigeration Reduced average project cycle time from 75 days to 46 days, and increased project capacity by 30% with no added marpower. Repair U.S. Army fleet Support 32% reduction in CH-47 and 52% reduction in UH-60 turnaround time. Repair U.S. Army, Corpus Christi Throughp

Military	MRO	US Air Force, Ogden Air Logistics Center	+32% in aircraft production per month. On-time delivery increased to 85%.	www.realization.com
Military	MRO	US Air Force, Oklahoma City Air Logistics Center	30% reduction in TAT. +47% production output. Dock spaces freed up (additional revenur potential \$35M)	www.realization.com
Military	Aircraft Upgrade and Repair	US Air Force, Oklahoma City Air Logistics Center	+54% in aircraft production per year. Cycle times from 225 days to 195 days.	www.realization.com
Military	Aircraft Upgrade and Repair	US Air Force, Oklahoma City Air Logistics Center	Cycle time went from 183 days to 155 days. 11% capacity released for additional workload.	www.realization.com
Military	MRO	US Air Force, Oklahoma City Air Logistics Center	Average turnaround timefrom 327 days to 146 days. 44% increase in throughput in 1year.	www.realization.com
Military	MRO	Force Base	Engine Piece-Part Repair:69% reduction backshopcycle time.67% increase in monthly throughput. Engines and Modules: 10% increase in monthly throughput. 55% reduction in cycle time.	www.realization.com
Military	Aircraft Upgrade and Repair	US Air Force, Warner Robins Air Logistics Center	25% increase in throughput. Turnaround time reduced to 37-121 days.+32% in Mechanic output per day.40% reduction in overtime.	www.realization.com
Military	Aircraft Repair and Overhaul	Center US Air Force, Warner Robins Air Logistics Center	Turnaround time from 240 days to 160 days. 75% fewer defects.	www.realization.com
Military	Reset Maintenance Programs	Center US Army AMCOM- ALC, Field Support Readiness Directorate	TAT decreased by average 18%	www.realization.com
Military	Aircraft Maintenance	US Army National	+43% increase in number of visits. 60% reduction in cycle time	www.realization.com
Military	Helicopter Maintenance, Repair and Overhaul	Army Depot	+17% increase in throughput. Between 15% and 50% reduction in TAT (depending on helicopter type)	www.realization.com
Military	Processing of Purchase Requests	US Department of Defense Procurement Organization	Delays reduced by 40%.76% reduction in cycle time.29% increase in throughput.	www.realization.com
Military	Army Vehicles Maintenance and Repair	US Marine Corps Logistics Base, Barstow	From 30% to 60% reduction in repair cycle time	www.realization.com
Military	Engines & Components Repair and Overhaul	US Naval Aviation Depot, Cherry PointAircraft	+11% productivity. Labor rate competitiveness	www.realization.com
Manufacturing	Design	Valley Cabinet Works	Went from 200 projects per year to 334 projects in the first nine months of the year measured.	www.realization.com
Steel	Rolling Mill Expansion	Vardhman Special Steels Limited	Project duration estimate ~16 months before CCPM implementation VS 13 months planned after implementation. 10 months after launch, sitll on tracks.	www.realization.com
IT	Customized software development	Verint	Project durations reduction : 37% for large projects, 33% for small projects. Throughput increased to 30 projects per quarter.	www.pmiwdc.org

Offshore	Product development	Veripos	Projects delivered between 25% and 40% faster	www.pmiwdc.org
Construction	Education institution	Vibgyor High	While usually building 2 or 3 schooles, they had to build in less than one year 6 new schools and realize major renovation & expansion in 39 existing schools. All projects were finished on time	www.realization.com
Telecommunication	Product development	Vivo	Throughput multiplied by 3, On-time delivery went from 27% to 91%, projects lead-times reduced by 7%. Time to Market in average reduced by 23%	www.criticalchain2020.com
Energy	Engineering	Von Ardenne	Cycle time reduced from 17 weeks to 14 weeks, while projects on time increased from 80% to 90%.	www.realization.com
Nickel Smelting	Process Plant Turnaround	Votorantim	2 pilots: 1project delivered on time, 1 project delivered 1 day earlier. Actual cost = 96% of planned budget when cost overruns before CCPM	www.realization.com
Communications	App development	Wire Swiss GmbH	+50% throughput	www.vistem.eu
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Other CCPM practitioners

3M, ABB, Abbott Labs, Accoat, Action Parl, Adirondack Oral & Maxillofacial Surgery, Advanced Energy Technology, Aena, Aerojet Corporation, Agilent Technologie, AHIS-St. Vincent Health, Air Force Institute of Technology, Airshow Inc., Alcatel, Alfa Lava, AMCC, AMD, American Rubber Products, AMGEN, Amper Programas, Andover Healthcare Inc., Applied Plasmonics, AREVA, Arterain Medical, Atomic Energy of Canada Ltd., Avaya, Avitronics, Barco, Baxter, Bell Canada, Bimba Manufacturing, Blusens Technology, Bosal, Bosch Rexroth Ltda., Boston Scientific, Bovis Pharmaceuticals, Brice Manufacturing, Broetje-Automation, BT Radianz, BVR Technologies Company, C.F. Roark Welding & Engineering Co. Inc., Callaway Golf, Celite Corporation, Columbia Industries, Central Dupage Health, Clopay, Coastal, Coca-Cola, Colgate Palmolive, Computer Sciences Corp, Conoco, Consentino IT, Converge Medical Inc., Corning Cable Systems, Cray, Inc., Cueros Industrializados del Bajio S.A., Cytori Therapeutics, Inc., DaimlerChrysler UK, Danfoss, Del Monte Foods, Delta Faucet Company, Detroit Diesel Reman-West, Diehl Metering, Disney, DuPont, Eastman Kodak Company, ECI Telecom Ltd., Eclozion Informatique, Edwards Lifescience, Enusa, Ericsson, Estonian Telephone, Ethicon, Exepron refs, ExxonMobil Chemical, Fairchild Semiconductor, Fisher Controls, Fluid Brasil Sistemas E Tecnologia, Fluke Corporation, Folkuniversitetet, Fonterra, Fuel Cell Energy, Gambro Healthcare, GE Industrial Systems, General Dynamics, Gestion Proyectos Balear, Gillette, GlaxoSmithKline, Graftech, Grupo Impulso, Hach, Halliburton, Hawker Beechcraft, Heineken, Henkel, Hewlett Packard, Hitachi Computer Products, Honda, Honeywell, IBM, IKEA Trading und Design, INSEAD, Ismeca Europe Semiconductor, ITT Canon, ITT Corporation, ITT Space Systems, ITT Technical Institute, Izar Fene, Janssen Pharmaceuticals, Johnson & Johnson, Mettler-Toledo Garvens, Kapp Niles, Kawasaki Heavy Industries, Ltd., Kraft Foods, L-3 Communication Systems, LSI Logic, Lucent Technologies, M&M Precision Systems, Marshall Industries, Marvell, Matrigalsa, Mazda, McKee Foods, Mecanoplastica, Medtronic, Merck, Medco Managed Care, Merichem Chemicals & Refinery Services, Microsoft, Milwaukee Forge, Moorhead, Motorola, Muebles Martinez Otero, NASA, Nike, Northrop Grumman, Nuclenor, Numonyx, Other ERo, Philip Morris, Philips Semiconductors, Pioneer, Portsmouth Naval Shipyard, Puget Sound Naval Shipyard, Qualcomm, Raychem, Roche Diagnostics, Rolls Royce, RSA Security, SAAB Avionics, Sapient, Sappel, Simosa IT, Sonora Quest, Sony Ericsson Mobil Communications, Spectranetics, Spirent Communications, Sun Microsystems, Sylvania, Symbian, Tadiran Spectralink, Talgo, Tektronix, Televes, Tellabs, Tenet Health Care, The Boeing Company, Thyssen Krupps, Polysius, Tinsa, Timco, Tripod Data Systems, Inc., TT Technologies, Tundra Semiconductor, Tyco Electronics, Tyco Healthcare, Ulma Packaging, United Behavioral Health, UPC Technology, US Air Force, Vascore Medical, Ventana, Volvo, Workscape, Xerox Corporation, Yves Rocher