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Tyler Technologies (TYL)

A Portfolio Managers' favorite with headwinds shifting to tailwinds

Tyler Technologies is the leading provider of software to municipal governments.

Core Revenue Sources

- + ERP (35% of Revenue)
- + Courts & Justice (15% of revenue)
- + Public Safety (7% of revenue)
- + Platform Technologies (30% of revenue)
- + Other (13% of revenue)
 Appraisal & Tax, Civic Services, K-12 Schools

Current Trading Statistics

Stock Price	11/15/2022		\$ 337.20
Premium / (Disco	ount) to: 52 Week High (\$557.	55)	(39.5%)
	52 Week Low (\$281.	11)	20.0%
Fully Diluted Shar	es Outstanding (a)		42.7
Total Equity Value			\$ 14,393
Plus: Total Del	ot		1,076
Less: Cash			225
Total Enterprise	Value		\$ 15,244
Total Enterprise	Value as a Multiple of:	Statistic (b)	<u>Multiple</u>
Net Revenue	2021A	\$ 1,592	9.6
	2022E	1,854	8.23
	2023P	1,963	7.8
Gross Profit	2021A	\$ 782	19.5
	2022E	899	17.0
	2023P	972	15.7
EBITDA	2021A	388.1	39.3
	2022E	473	32.2
	2023P	526	29.0
EBIT	2021A	\$ 298	51.2
	2022E	380	40.1
	2023P	428	35.6
	ue as a Multiple of:		
Net Income	2021A	\$ 208	69.0
	2022E	265	54.3
	2023P	324	44.4
Current Share P	rice as a Multiple of:		
EPS	2021A	\$ 4.94	68.3
	2022E	6.18	54.6
	2023P	7.48	45.1

 ⁽a) Diluted shares outstanding based on treasury method calculation

⁽b) Statistic per internal projections



Investment Thesis

Core business outgrew indices, is expected to do so in future as well

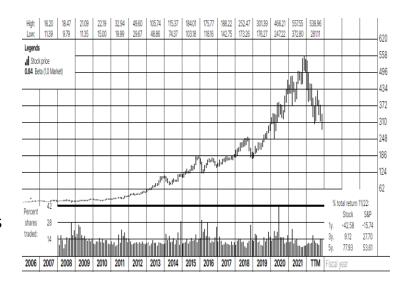
Strong Existing Business

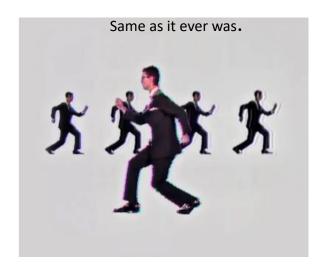
From Jan 2000 to Nov 2022, TYL has compounded at 20.3% p.a., vs. Nasdaq at 5.4% and S&P500 at 4.64% driven by:

- **1. Attractive end market** 90,000 municipalities with long tail of replacement and share of wallet expansion opportunities
- **2. Vertical market specialization** enabling focused M&A as well as profitable growth without excessive competition
- **3. Strategy of core ERP + payments** with software wrapper creates sticky relationships with multi-year expansion opportunity
- 4. Management aligned with shareholders

Continued growth expected based on

- **1. Subscription model transition** P&L headwinds turn to tailwinds exiting 2023
- **2. Valuation** is currently 4x lower than 10-year median NTM P/E = 45x, and forward estimates are subdued by subscription transition
- **3. NIC acquisition** provides access to new accounts







Industry Trends

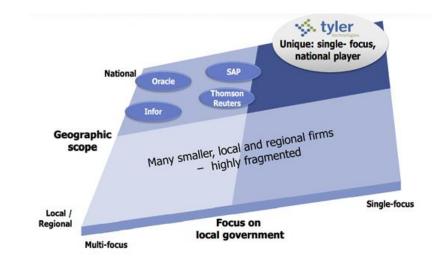
High growth end market, repeat business and low competition

End market dynamics

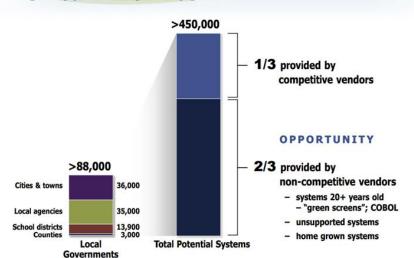
- TAM of Local & Regional Government market estimated at \$30B^[1] exhibiting high single digit annual growth rate
- Smaller deal sizes and slower sales cycle keep competitors disinterested, while reference sales are uniquely beneficial to Tyler
- 1/3 of deals are competitive with typical ERP players (Oracle, Infor, SAP), while 2/3 of new business comes from replacing antiquated, home-grown systems
- Nearly 50% of local government budgets are tied to property taxes and other more stable sources of revenue

TYL has been able to take advantage of this landscape

- Potent ERP + Payments + Software strategy enables expansion over time
- Strong acquisition history, guided by domain expertise and knowledge of customer landscape
- Tyler's software is incredibly sticky, the company boasts a 98% renewal rate



Large Opportunity to Upgrade Government Software



Source: Company Filings, [1] Gartner



Business Model

Vertical specialization results in consistent and profitable model

Revenue Growth	Organically, TYL has grown revenues in the 8-12% range over the past 10 years. Acquisitions have typically been tuckins excluding New World Systems (2016) and NIC (2021).
Operating Margins	Company has historically grown operating margins ~1-2% per year.
Earnings	Tyler has compounded EPS around 20% over the past 10 years.
Free Cash Flow	Company has generated FCF margins roughly 25-30% over the past decade, however revenue and investment headwinds are weighing on current profitability and FCF margin hovers above 20%.

Tyler Technologies10 Year Summary Financial Results

(All figures in millions, except per share data)

					Actu	al					CAGR/
Fiscal	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Avg
Net Sales	\$ 363	\$ 417	\$ 493	\$ 591	\$ 756	\$ 841	\$ 935	\$ 1,086	\$ 1,117	\$ 1,592	17.8%
Cost of Sales	196	223	260	314	401	442	496	570	574	883	18.2%
SG&A	87	98	108	133	167	177	208	258	260	391	18.2%
R&D	20	23	26	30	43	47	63	81	88	93	18.6%
EBIT (Non-Gaap)	\$ 70	\$ 86	\$ 117	\$ 149	\$ 214	\$ 236	\$ 250	\$ 276	\$ 300	\$ 405	21.5%
EBITDA	74	91	121	155	227	249	266	298	321	450	22.1%
Net Income (GAAP)	33	39	59	65	110	164	147	147	195	161	19.3%
Diluted EPS (GAAP)	\$ 1.00	\$ 1.13	\$ 1.66	\$ 1.77	\$ 2.82	\$ 4.18	\$ 3.84	\$ 3.79	\$ 4.87	\$ 3.95	16.5%
Diluted EPS(Non-GAAP)	1.29	1.51	2.09	2.54	3.49	3.94	4.80	5.30	5.52	7.02	20.7%
Net Sales Growth		14.7%	18.4%	19.9%	27.9%	11.2%	11.3%	16.2%	2.8%	42.6%	18.3%
ΥοΥ Δ		14.7%	3.7%	1.5%	8.1%	(16.7)%	0.1%	4.9%	(13.4)%	39.8%	4.7%
COGS, % of Net Sales	53.8%	53.6%	52.7%	53.1%	53.0%	52.5%	53.0%	52.4%	51.4%	55.4%	53.1%
ΥοΥ Δ		(0.2)%	(1.0)%	0.4%	(0.1)%	(0.5)%	0.5%	(0.6)%	(1.0)%	4.0%	0.2%
SG&A, % of Net Sales	23.9%	23.6%	22.0%	22.6%	22.1%	21.1%	22.2%	23.7%	23.2%	24.5%	22.9%
ΥοΥ Δ		(0.3)%	(1.6)%	0.6%	(0.4)%	(1.1)%	1.1%	1.5%	(0.5)%	1.3%	0.1%
EBITDA Margin	20.5%	21.8%	24.6%	26.2%	30.1%	29.7%	28.5%	27.4%	28.8%	28.3%	26.6%
EBIT Margin	19.3%	20.7%	23.6%	25.2%	28.2%	28.0%	26.8%	25.4%	26.8%	25.5%	25.0%
Net Income Margin	9.1%	9.4%	12.0%	11.0%	14.5%	19.5%	15.8%	13.5%	17.4%	10.1%	13.2%

Source: Company Filings, Factset Data



Management

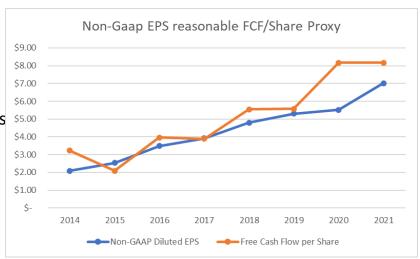
Long history of smart investments and shareholder friendliness

- **1. John Marr**, Executive Chairman, joined Tyler in 1999 through the acquisition of public sector software provider Munis.
- **2. Lynn Moore**, CEO, joined Tyler in 1998 and has been responsible for over 45 M&A deals, as well as organic growth
- **3. Brian Miller**, CFO, has been with Tyler since 1997 and serves as CFO since 2008

Each individual owns \$15-30 Million in TYL stock, while base salaries are \$300-525k

Incentive compensation is tied to Non-GAAP EPS goals – a good proxy for free-cash-flow per share. Since 2010, this team has overseen a 16% revenue CAGR, a 21% EPS CAGR, and focused on profitable growth.

We see a solid track record of value creation and think this current set back is going to be temporary.







Investment Opportunity

Revenue and margin headwinds offer a perfect entry opportunity

Revenue Headwinds

- The switch from upfront revenue recognition under a license + maintenance model to subscription pushes a significant portion of newly contracted revenues out to future years. In 2023, the growth in upfront licenses weighs heavy on growth (orange).
- 2. The NIC acquisition is creating near-term compare challenges for revenue (yellow).

Margin Headwinds

- 1. NIC's lower corporate margins (low 20's EBITDA margins vs. Tyler's 26-32%) are clouding the positive contribution of mix shift in Tyler's gross profit near term.
- Tyler is shouldering transitional costs related to its subscription business, concurrently run existing workloads in its own datacenters and AWS and incurring bubble costs associated with its services team transitioning customers to the cloud

Tyler Technology Revenue Build

									F	rojected	Proje	ected
Fiscal	2020					2021					2022 E	2023 E
		1QA	2QA	3QA	4QA		1QA	2QA	3QA	4QE		
Licenses	73.2	14.9	17.6	22.7	19.2	74.5	16.5	15.0	20.3	20.0	71.8	39.
Y/Y %	-27%	-20%	3%	14%	10%	2%	11%	-15%	-10%	4%	-4%	-45%
Subscriptions	350.6	102.5	199.6	252.9	229.5	784.4	245.4	255.8	254.3	255.0	1010.6	1172.2
Y/Y %	18%	25%	133%	183%	144%	124%	140%	28%	1%	11%	29%	16%
Software Services	186.4	47.6	53.3	54.6	53.8	209.4	61.5	63.1	63.2	54.1	241.9	254.0
Y/Y %	-13%	-9%	22%	14%	26%	12%	29%	18%	16%	1%	16%	5%
Maintenance	467.5	119.1	119.6	117.8	117.7	474.3	117.0	116.8	117.3	113.4	464.5	441.3
Y/Y %	9%	4%	2%	0%	-1%	1%	-2%	-2%	0%	-4%	-2%	-5%
Services	21.1	6.5	6.3	7.1	7.9	27.8	8.5	8.8	8.6	8.6	34.5	34.9
Y/Y %	-10%	12%	33%	32%	50%	32%	32%	41%	20%	9%	24%	1%
Hardware	17.8	4.2	7.7	4.7	5.4	21.9	7.1	9.1	9.4	5.1	30.7	31.3
Y/Y %	-23%	9%	132%	-10%	-1%	23%	71%	18%	102%	-6%	40%	2%
Total Revenue	1116.7	294.8	404.1	459.9	433.5	1592.3	456.1	468.7	473.1	456.2	1854.1	1973.3
V/V Change	2 8%	6.6%	40 1%	60.0%	53.0%	42.6%	54.7%	16.0%	2 0%	5.2%	16.4%	6.4%

Operating Margin Guide FY '23	23.80%
Shift in New Business Mix SaaS Transition "Bubble" Costs Returning Costs COVID	0.50% 0.90% 1%
Normalized Operating Margin	26.20%

"So, over the last several years, the public sector has been moving more and more to the cloud. And if those who aren't really familiar with public sector, boy, it's only been the last couple of yeas what's been going on because the rest of the world has been doing it for some time. But when you do business in the public sector, one thing you realize is that they move a little more slowly than the commercial sector. They want things that are reliable. They want things that work. They're not always looking for the next greatest gadget.... I think early 2019, we decided we wanted to really change our approach to the market from a cloud-agnostic approach to a cloud-first approach."

-Lynn Moore, President & CEO at William Blair Growth Conference 2022



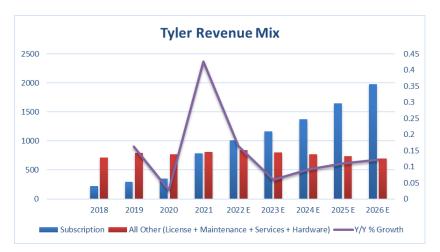
Investment Thesis

Revenue acceleration and durable growth expected after this low

Transitioning to subscriptions, TYL will experience the mechanical benefit of a software revenue acceleration as subscription bookings layer in and grow as a part of the mix. **Expected to show up in 2024 revenue.**

Additionally, the expense base should be right sized by the end of 2023, with margins expanding slightly faster than historically.

The combination of these two factors ought to lead to a meaningful **re-acceleration of revenue and earnings growth.**



Tyler Technology Revenue Build

			Actual		Proje	cted				
Fiscal	2018	2019	2020	2021	2022 E	2023 E	2024 E	2025 E	2026 E	2027 E
Licenses	93.4	100.2	73.2	74.5	71.8	39.5	27.6	19.4	13.5	9.5
Y/Y %		7%	-27%	2%	-4%	-45%	-30%	-30%	-30%	-30%
Subscriptions	220.5	296.4	350.6	784.4	1010.6	1172.2	1383.3	1646.1	1942.4	2272.6
Y/Y %		34%	18%	124%	29%	16%	18%	19%	18%	17%
Software Services	191.3	213.1	186.4	209.4	241.9	254.0	265.4	276.1	285.7	294.3
Y/Y %		11%	-13%	12%	16%	5%	5%	4%	4%	3%
Maintenance	384.5	430.3	467.5	474.3	464.5	441.3	410.4	369.4	325.1	276.3
Y/Y %		12%	9%	1%	-2%	-5%	-7%	-10%	-12%	-15%
Services	21.8	23.5	21.1	27.8	34.5	34.9	36.6	37.4	38.1	38.5
Y/Y %		8%	-10%	32%	24%	1%	5%	2%	2%	1%
Hardware	23.7	23.0	17.8	21.9	30.7	31.3	31.3	30.7	29.2	26.3
Y/Y %		-3%	-23%	23%	40%	2%	0%	-2%	-5%	-10%
Total Revenue Y/Y Change	935.2	1086.4 16.2%	1116.7 2.8%	1592.3 42.6%	1854.1 16.4%	1973.3 6.4%	2154.7 9.2%	2378.9 10.4%	2634.0 10.7%	2917.4 10.8%

Tyler Technology Income Statement

		Actual		Estimated			Projected		
Fiscal	2019	2020	2021	2022	2023	2024	2025	2026	2027
Net Sales	\$ 1,086	\$ 1,117	\$ 1,592	\$ 1,854	\$ 1,973	\$ 2,155	\$ 2,379	\$ 2,634	\$ 2,917
Cost of Sales	519	523	811	955	1,046	1,110	1,189	1,277	1,371
Gross Profit	\$ 567	\$ 593	\$ 782	\$ 899	\$ 927	\$ 1,045	\$ 1,189	\$ 1,356	\$ 1,546
SG&A Expenses	210	206	283	342	369	388	396	407	428
R&D Expense	81	88	93	97	101	105	109	114	118
Operating Income	\$ 276	\$ 300	\$ 406	\$ 460	\$ 457	\$ 552	\$ 685	\$ 835	\$ 1,000
Interest Expense	-	1	23	31	1	1	1	1	-
Pre-Tax Income	\$ 276	\$ 298	\$ 382	\$ 429	\$ 456	\$ 551	\$ 683	\$ 834	\$ 1,000
Income Taxes	66	72	92	103	109	132	164	200	240
Net Income	\$ 210	\$ 227	\$ 291	\$ 326	\$ 346	\$ 418	\$ 519	\$ 634	\$ 760
Diluted Shares Outstanding	40.1	41.5	42.2	42.9	43.5	43.9	44.3	44.7	45.4
Diluted Earnings per Share	\$ 5.23	\$ 5.46	\$ 6.88	\$ 7.60	\$ 7.96	\$ 9.53	\$ 11.71	\$ 14.16	\$ 16.74
EBITDA	\$ 298	\$ 326	\$ 422	\$ 497	\$ 497	\$ 584	\$ 720	\$ 875	\$ 1,044
EBITDA Margin	27.5%	29.2%	26.5%	26.8%	25.2%	27.1%	30.3%	33.2%	35.8%
Income Statement Analys	is								
Net Sales Growth		2.8%	42.6%	16.4%	6.4%	9.2%	10.4%	10.7%	10.8%
EPS Growth		4.2%	20.6%	9.5%	4.6%	16.5%	18.6%	17.3%	15.4%
Gross Margin	52.2%	53.1%	49.1%	48.5%	47.0%	48.5%	50.0%	51.5%	53.0%
Operating Margin	25.4%	26.8%	25.5%	24.8%	23.2%	25.6%	28.8%	31.7%	34.3%



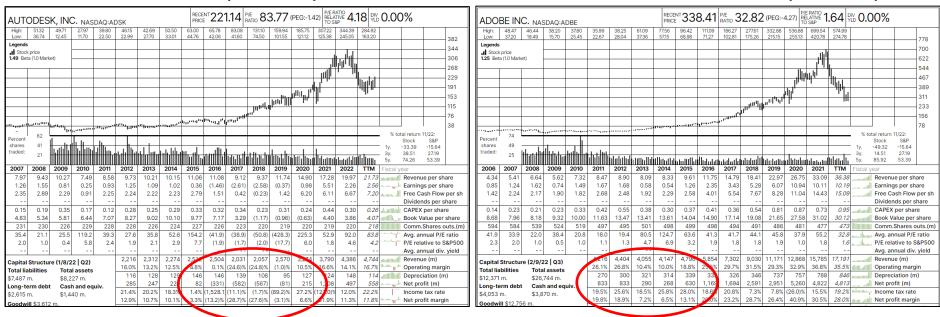
Historical Industry Trends

Cos. transitioning to subscription historically have seen value add

Cloud subscription transitions are a relatively common value add tool within software. Several prior examples:

Autodesk (2016-2018)

Adobe (2012-2014)



Longer term, TYL benefits from the architectural shift to the cloud.

- (1) Scalability and better asset utilization for customers and Tyler, lowering CapEx needs in out years.
- (2) Lower upfront costs for municipalities, potentially aiding in new customer acquisition.
- (3) Single code base allows for easier product upgrades, leading to potentially higher up/cross-selling in the future.
- (4) Cloud companies generally enjoy higher margins structural margins without the need to own their datacenters.

Source: roic.ai



Recent Acquisitions

Understanding the upside and synergies provided by NIC

Why NIC

- Expands Tyler into higher up relationships
 - State-level master services agreements provide an opportunity for expansion from cross-selling
 - Increase State revenues by 4x
 - Increase Federal revenues by nearly 50%

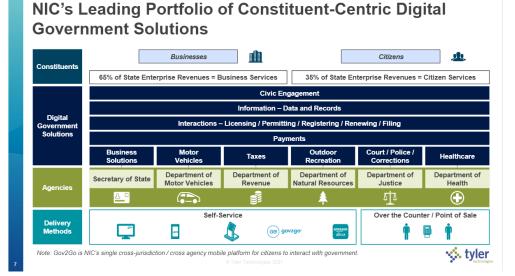
Complimentary products

- NIC's government payment portals tie in nicely with Tyler's Micropact and Socrata software packages
- Front end payments integrate with Tyler's Financials & ERP solutions for total system solution

Transaction details

- Purchase price of \$2.3B –funded with 1.6B of debt and 700M of cash on hand
- Acquired at roughly 6x TTM revenue and 21x TTM FBITDA



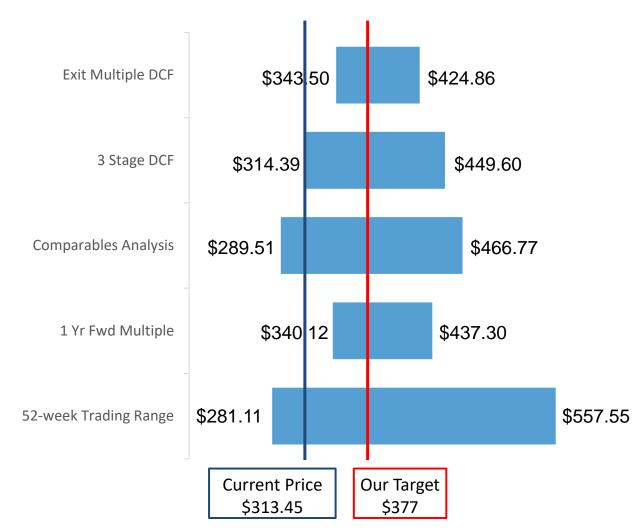




Valuation At A Glance

Our Target Price of \$377 vs various estimates

We derive our price target from a number of different valuation methodologies:



Bull:

We use an average of our 3 stage DCF, Exit multiple DCF and historical multiple analysis to derive an upside target of \$437 (+39%)

Base:

We arrive at a fair value of \$377 (+20%) using our 2 DCF methodologies

Bear:

We expand the range of valuation scenarios on the downside, to account for a period of prolonged multiple and discount rate pressures. We derive a bear case scenario of \$274 (-13%) using an average of our two DCFs and a haircut forward P/E





Historical Multiple Analysis

We cannot separate out the broader pressure on software from Tyler's recent performance, but we think the discount to historical valuation suggests the market is indeed concerned about the ongoing slowdown in growth.

Exiting 2023, with growth + margins accelerating, reverting to a historical multiple would yield 37% upside. For conservatism, we did not include this in our price target derivation.

Assuming forward multiples need to reflect changing environment, even the 10 year low forward multiple grinds out a return.

A 30% haircut to the 10-year low P/E shows a more aggressive downside case.



10 YR FWD P/E Multiple
Median 45x
Low 35x
High 80x

Current 41x

Fiscal	2024	Fiscal	2024	Fiscal	2024
Diluted Earnings per Share	\$ 9.72	Diluted Earnings per Share	\$ 9.72	Diluted Earnings per Share	\$ 9.72
Haicut FWD P/E	25x	10 YR LOW FWD P/E	35x	10 YR MEDIAN FWD P/E	45x
Target price	\$242.94	Target price	\$340.12	EoY 2023 Target price	\$437.30
Current Price	\$313.45	Current Price	\$313.45	Current Price	\$313.45
12 Month Return	-22%	12 Month Return	9%	12 Month Return	40%



Valuation

3-stage DCF

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Equity Value \$15,774.20 4.50% 577 519 471 430 395 Shares Outstanding 42.68 4.00% 492 450 413 381 353 Price Per Share (BASE) \$ 369.57 Current Price \$ 313.45 3.50% 432 399 370 344 321		-																			
Shares Outstanding 42.68 4.00% 492 450 413 381 353 Price Per Share (BASE) 369.57 Current Price \$ 313.45 3.50% 432 399 370 344 321		\$				\$		7.00%													
Price Per Share (BASE) \$ 369.57 Current Price \$ 313.45 3.50% 432 399 370 344 321	Equity Value		\$15,774.20				4.50%	577	519	471	430	395									
	Shares Outstanding		42.68				4.00%	492	450	413	381	353									
	Price Per Share (BASE)	\$	369.57 Curr	ent Price \$	313.45		3.50%	432	399	370	344										

We think the most appropriate way to value the durable growth of TYL is with a 3-stage DCF. The first forecast period from our 3 statement model, an intermediate period reflecting declining growth, and a terminal steady-state period. We arrive at a Fair Value of \$370 or ~20% upside.

We believe this model is conservative given the durability of growth in out years.

Source: Internal Estimates, Factset Data, Company Filings

ALPHA CHALLENGE The University of North Carolina

Valuation

Exit Multiple DCF

Assumptions									
Marginal Tax Rate	24%	Kd	5.25%						
Net Debt	851	Rf	3.69%						
Share Price	313.45	MRP	4.24%						
Shares Outstanding	42,683	W(d)	6%						
MV Equity	13,379	W(e)	94%						
g	3.50%	Beta	0.95						
Ke	7.72%	WACC	7.50%						

			Actual				Forecast						
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	Prev 5-yr Avg	Forecasted Avg
Service Revenues	841	935	1,086	1,117	1,592	1,854	1,973	2,155	2,379	2,634	2,917		
% Growth		11%	16%	3%	43%	16%	6%	9%	10%	11%	11%	17.85%	9.50%
Cost of Goods	442	496	570	574	883	955	1,046	1,099	1,178	1,264	1,357		
% of revenues	53%	53%	52%	51%	55%	52%	53%	51%	50%	48%	47%	52.76%	
Gross Profit	\$ 399 \$	440 \$	517 \$	543 \$	709 \$	899	\$ 927 \$	1,056 \$	1,201 \$	1,370 \$	1,561		
YoY % Gross Profit growth		10%	18%	5%	31%	27%	3%	14%	14%	14%	14%	18.04%	
Cost of Op Revenues	150	173	219	221	259	439	470	493	505	521	546		
% of revenues	18%	19%	20%	20%	16%	24%	24%	23%	21%	20%	19%	19.70%	21.29%
D&A	14	16	21	22	45	37	39	32	36	40	44		
SG&A + Other													
Operating Expenses	164	189	241	243	304	476	510	525	541	561	590		
Operating Income (EBIT)	\$ 236 \$	250 \$	276 \$	300 \$	405 \$	460	\$ 457 \$	563 \$	696 \$	849 \$	1,015		
EBITDA	249	266	298	321	450	497	497	595	732	888	1,059	1,164.37	
NOPAT (EBIT *1-Tax Rate)	179	190	210	228	308	350	347	428	529	645	771		•
+ D&A	14	16	21	22	45	37	39	32	36	40	44		
-CAPEX	43	27	37	23	34	20	20	20	20	20	20		
-Change in Net Working Capital	34	9	(23)	16	23	(27)	18	16	19	22	25		
Free Cash Flow	\$ 116 \$	170 \$	217 \$	210 \$	296 \$	393	\$ 349 \$	424 \$	526 \$	642 \$	770		
													•
EBITDA Margin	30%	28%	27%	29%	28%	27%	25%	28%	31%	34%	36%	27.95%	30.71%
Gross Profit Margin	47%	47%	48%	49%	45%	49%	47%	49%	51%	52%	54%	47.24%	50.40%
FCF Margin	14%	18%	20%	19%	19%	21%	18%	20%	22%	24%	26%	19.37%	22.05%

Exit EBITDA Multiple	20x		
Terminal Value	23,287.48		
Discounted	\$15,093.55		
NPV FCF	\$2,132.55	_	
Enterprise Value	\$17,226.10	='	
-Net Debt	\$ 851.00	_	
Equity Value	\$16,375.10	-	
Shares Outstanding	\$ 42.68	-	
Price Per Share (BASE)	\$ 383.64	Current Price	\$ 313.4
		Return	22

			WACC		
\$ 383.64	7.00%	7.25%	7.50%	7.75%	8.00%
24x	467	461	454	448	442
22x	431	425	419	413	408
20x	394	389	384	378	373
18x	358	353	348	344	339
16x	322	317	313	309	304

We arrive at 20x exit EBITDA multiple by taking the lowest of peer forward multiples to bake in more conservatism. We arrive at fair value of \$383 (22% upside).

Source: Internal Estimates, Factset Data, Company Filings



Summary

Despite high multiples, we think TYL is undervalued when accounting for the compounding FCF/EPS growth.

While the upside may not be astronomical, we think the probability it comes to fruition is high.

Near term, you can own TYL at a historical discount in front of accelerating revenue growth, margin expansion, and EPS upside.

Risks & Sell Discipline

We have only factored in a base case financial model for our valuation analysis –perhaps an overly confident decision.

If Subscription growth fails to meet the mid-high teens annual growth guidance, we believe investors will question the durability of the model and Tyler may lose its premium valuation.

Happy to answer any questions.



Appendix

Our Base Case Model



Earnings Surprise history

Period	Event Date	After Event	Mean	Surp (%)
Dec '22E	-	-	1.75	-
Sep '22	27 Oct '22	2.06	1.86	10.7
Jun '22	28 Jul '22	1.88	1.82	3.1
Mar '22	28 Apr '22	1.90	1.72	10.5
Dec '21	17 Feb '22	1.75	1.74	0.5
Sep '21	28 Oct '21	2.01	1.77	13.4
Jun '21	29 Jul '21	1.83	1.63	12.5
Mar '21	29 Apr '21	1.43	1.32	8.1
Dec '20	10 Feb '21	1.39	1.42	-2.1
Sep '20	05 Nov '20	1.50	1.33	12.6
Jun '20	30 Jul '20	1.38	1.20	15.0
Mar '20	30 Apr '20	1.25	1.25	-0.3
Dec '19	13 Feb '20	1.43	1.43	-0.1
Sep '19	31 Oct '19	1.35	1.36	-0.6
Jun '19	01 Aug '19	1.30	1.29	0.6
Mar '19	02 May '19	1.22	1.22	-0.2
Dec '18	21 Feb '19	1.26	1.26	0.2
Sep '18	01 Nov '18	1.23	1.23	0.1
Jun '18	27 Jul '18	1.18	1.13	4.0
Mar '18	03 May '18	1.13	1.12	1.0
Dec '17	22 Feb '18	1.07	1.04	2.4
Sep '17	26 Oct '17	1.05	1.02	2.6

This is a management that meets or beats expectations, COVID aside.

As a sanity check to our own forecasts and positive outlook, our model is largely in-line with management's mid-term targets, yet above consensus estimates.

Mid-Term Financial Targets









Other notes:

- (1) We are slightly above consensus estimates for 2024
- (2) Our subscription growth is in-line with management framing, but other revenue segments carry more y/y noise
- (3) Out year profitability appears high compared to the recent past, but is less concerning looking at "cleaner" years and other cloud software companies
- (4) Our base case model assume the conversion price of ~\$500 is not struck.
- (5) Cash use assumes continued pay down of debt rather than buybacks NT, with small, unsubtantial buybacks after.

Tyler 3 Statement Base Case Model



Tyler Technology Income Statement

(All figures in millions, except per share data)

		Actual		Estimated Projected							
Fiscal	2019	2020	2021	2022	2023	2024	2025	2026	2027		
Net Sales	\$ 1,086	\$ 1,117	\$ 1,592	\$ 1,854	\$ 1,973	\$ 2,155	\$ 2,379	\$ 2,634	\$ 2,917		
Cost of Sales	<u>519</u>	<u>523</u>	<u>811</u>	955	1,046	1,099	1,178	1,264	1,357		
Gross Profit	\$ 567	\$ 593	\$ 782	\$ 899	\$ 927	\$ 1,056	\$ 1,201	\$ 1,370	\$ 1,561		
SG&A Expenses	210	206	283	342	369	388	396	407	428		
R&D Expense	<u>81</u>	88	93	97	101	105	109	114	118		
Operating Income	\$ 276	\$ 300	\$ 406	\$ 460	\$ 457	\$ 563	\$ 696	\$ 849	\$ 1,015		
Interest Expense	-	1	23	31	1	1	1	1	-		
Pre-Tax Income	\$ 276	\$ 298	\$ 382	\$ 429	\$ 456	\$ 561	\$ 695	\$ 847	\$ 1,015		
Income Taxes	66	7 2	92	103	109	135	167	203	244		
Net Income	\$ 210	\$ 227	\$ 291	\$ 326	\$ 346	\$ 427	\$ 528	\$ 644	\$ 771		
Diluted Shares Outstanding	40.1	41.5	42.2	42.9	43.5	43.9	44.3	44.7	45.4		
Diluted Earnings per Share	\$ 5.23	\$ 5.46	\$ 6.88	\$ 7.60	\$ 7.96	\$ 9.72	\$ 11.92	\$ 14.39	\$ 16.98		
EBITDA	\$ 298	\$ 326	\$ 422	\$ 497	\$ 497	\$ 595	\$ 732	\$ 888	\$ 1,059		
EBITDA Margin	27.5%	29.2%	26.5%	26.8%	25.2%	27.6%	30.8%	33.7%	36.3%		
Income Statement Analys	sis										
Net Sales Growth		2.8%	42.6%	16.4%	6.4%	9.2%	10.4%	10.7%	10.8%		
EPS Growth		4.2%	20.6%	9.5%	4.6%	18.1%	18.5%	17.2%	15.3%		
Gross Margin	52.2%	53.1%	49.1%	48.5%	47.0%	49.0%	50.5%	52.0%	53.5%		
Operating Margin	25.4%	26.8%	25.5%	24.8%	23.2%	26.1%	29.3%	32.2%	34.8%		



Tyler 3 Statement Base Case Model

Tyler Technologies Balance Sheet

(\$ in millions)

	Actu	ıal	Estimated			Projected		
Fiscal	2020	2021	2022	2023	2024	2025	2026	2027
ASSETS								
Current Assets								
Cash & Equivalents	\$ 604	\$ 362	\$ 474	\$ 649	\$ 885	\$ 1,261	\$ 1,888	\$ 2,028
Accounts Receivables	382	521	610	649	708	782	866	959
Prepaid + Other	106	64	112	121	127	135	143	152
Income Tax Receivable	22	<u>18</u>	18	18	18	18	18	18
Total Current Assets	\$ 1,113	\$ 964	\$ 1,213	\$ 1,437	\$ 1,739	\$ 2,196	\$ 2,915	\$ 3,158
Net PPE	\$ 168	\$ 181	\$ 206	\$ 226	\$ 246	\$ 266	\$ 286	\$ 306
Goodwill	838	2,360	2,360	2,360	2,360	2,360	2,360	2,360
Operating Lease	19	40	40	40	40	40	40	40
Intangible Assets	322	1,053	1,015	976	944	908	868	825
NonCurrent Investments & Other	116	92	92	92	92	92	92	92
Long Term Receivables	21	14	14	14	14	14	14	14
Software Development Costs	9	29	29	29	29	29	29	29
TOTAL ASSETS	\$ 2,607	\$ 4,732	\$ 4,969	\$ 5,173	\$ 5,463	\$ 5,904	\$ 6,604	\$ 6,822
LIABILITIES								
Current Liabilities								
Accounts Payable	\$ 97	\$ 278	\$ 248	\$ 270	\$ 283	\$ 300	\$ 318	\$ 339
Other Current Liabilities	6	11	11	12	13	14	16	18
Notes Payable & Overdrafts (Revolver)								
Current Portion of Long-Term Debt		30						
ST Deferred Revenue	461	511	649	691	754	833	922	1,021
Total Current Liabilities	\$ 564	\$ 830	\$ 908	\$ 973	\$ 1,051	\$ 1,147	\$ 1,256	\$ 1,377
Long-Term Debt	\$ -	\$ 719	\$ 549	\$ 349	\$ 149	\$ -	\$ -	\$ -
Convertible senior note	-	593	594	596	597	599	600	-
Deferred Income Taxes & Other	41	228	228	228	228	228	228	228
Operating Lease	16	36	37	39	43	48	53	58
Other Long Term Liabilities		3	3	3	3	3	3	3
LT Deferred Revenue	0					<u>-</u>	<u>-</u> .	
TOTAL LIABILITIES	\$ 621	\$ 2,409	\$ 2,320	\$ 2,188	\$ 2,071	\$ 2,024	\$ 2,140	\$ 1,667
SHAREHOLDERS' EQUITY								
Common Stock	\$ 1	\$ 1	\$ 1	\$ 1	\$ 1	\$ 1	\$ 1	\$ 1
APIC	905	1,080	1,080	1,080	1,080	1,080	1,080	1,080
Retained Earnings	1,112	1,274	1,599	1,936	2,342	2,830	3,414	4,105
Treasury Stock	(32)	(30)	(30)	(30)	(30)	(30)	(30)	(30)
TOTAL SHAREHOLDERS' EQUITY	\$ 1,986	\$ 2,324	\$ 2,650	\$ 2,986	\$ 3,393	\$ 3,881	\$ 4,465	\$ 5,156



Tyler 3 Statement Base Case Model

Tyler Technology Cash Flow Statement

(All figures in millions, except per share data)

	Estimated			Projected		
Fiscal	2022	2023	2024	2025	2026	2027
Cash From Operating Activities:						
Net Income	\$ 326	\$ 346	\$ 427	\$ 528	\$ 644	\$ 771
Plus: Depreciation & Amortization	37	39	32	36	40	44
Increase/(Decrease) in LT Deferred Revenue						
Changes in Working Capital:						
(Increase)/Decrease in Accounts Receivables	\$ (88)	\$ (39)	\$ (60)	\$ (74)	\$ (84)	\$ (93)
(Increase)/Decrease in Prepaid + Other	(48)	(10)	(6)	(7)	(8)	(9)
Increase/(Decrease) in Accounts Payable	(30)	22	13	16	18	21
Increase/(Decrease) in Other Current Liabilities	1	1	1	1	2	2
Increase/(Decrease) in ST Deferred Revenue	138	42	64	78	89	99
Increase/(Decrease) in Operating Lease	1	2	4	4	<u> </u>	6
Total Change in Working Capital	\$ (27)	\$ 18	\$ 16	\$ 19	\$ 22	\$ 25
Total Cash From Operating Activities	\$ 336	\$ 403	\$ 475	\$ 583	\$ 705	\$ 840
Cash From Investing Activities:						
Capital Expenditures	\$ (25)	\$ (20)	\$ (20)	\$ (20)	\$ (20)	\$ (20)
Total Cash From Investing Activities	\$ (25)	\$ (20)	\$ (20)	\$ (20)	\$ (20)	\$ (20)
Cash From Financing Activities:						
Issuance of Common Stock	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Common Stock Dividends	-	-	-	-	-	-
Net (Purchase) / Reissuance of Treasury Stock	<u> </u>	(10)	(20)	(40)	(60)	(80)
Cash Available / (Required) Before Debt	\$ 311	\$ 373	\$ 435	\$ 523	\$ 625	\$ 740
Debt Borrowing / (Repayment)	(199)	(199)	(199)	(147)	1	(600)
Total Cash From Financing Activities	\$ (199)	\$ (209)	\$ (219)	\$ (187)	\$ (59)	\$ (680)
Beginning Cash Balance	\$ 362	\$ 474	\$ 649	\$ 885	\$ 1,261	\$ 1,888
Change in Cash	113	175	236	376	627	140
Ending Cash Balance	\$ 474	\$ 649	\$ 885	\$ 1,261	\$ 1,888	\$ 2,028
Average Cash Balance				-	-	•



Valuation Appendix - Comparable Multiple Analysis

Revenue

2021A 2022E 2023P

11x

10x

13x

10x

10x

10x

9x

12x

9x

8x

11x

12x

15x

12x

11x

Analysis of Vertical Software Companies

Ticker

ANSS

SNPS

CDNS

SPSC

LFY Margins

EBITDA EBIT

41.4%

30.5%

37.0%

24.1%

26.8%

46.9%

33.3%

41.5%

27.8%

Valuation Multiples

Company

Synopsis

Cadence Design

SPS Commerce

Ansys

We look at comparable companies for a reference point but do not include our in our current price targets.

Mannattan Sortwar	IVIAINH	28.0%
Tyler Techno	logy	
Illustrative Refe	erence F	Range

(All figures in millions, except per share data)

We believe peer multiples are slightly biased to the upside given TYL's near term mix of subscription software

Additionally, we think multiples analysis misses our longer time horizon.

		por oriaro data)	Average Multiple	Implied Enterprise	Implied Equity	Implied Price per
Methodolo	gy	Statistic	Range	Value	Value	Share
Analysis of	Selected F	Publicly Traded	l Tire Manufacturers			
Revenue	2021A	\$ 1,592	12.4x	\$ 19,697	\$ 18,846	\$ 441.5
	2022E	1,854	10.8x	\$ 19,966	\$ 19,923	\$ 466.8
	2023P	1,973	9.5x	\$ 18,828	\$ 18,828	\$ 441.1
EBITDA	2021A	\$ 422	36.1x	\$ 15,208	\$ 15,208	\$ 356.3
	2022E	497	31.0x	\$ 15,402	\$ 15,402	\$ 360.8
	2023P	497	27.0x	\$ 13,395	\$ 13,395	\$ 313.8
EBIT	2021A	\$ 406	39.9x	\$ 16,199	\$ 16,199	\$ 379.5
	2022E	460	33.5x	\$ 15,397	\$ 15,397	\$ 360.7
	2023P	457	29.9x	\$ 13,663	\$ 13,663	\$ 320.1
EPS	2021A	\$ 6.88	51.3x			\$ 353.0
	2022E	7.60	41.3x			\$ 313.6
	2023P	7.96	36.4x			\$ 289.5
Reference	Range					\$ 289.51 - \$ 466.8

Enterprise Value as a Multiple of

24x

36x

37x

43x

41x

EBITDA

2021A 2022E 2023P

25x

28x

29x

35x

38x

20x

24x

26x

30x

Price as a Multiple of

Earnings per Share

2021A 2022E 2023P

32x

37x

39x

52x

29x

32x

35x

45x

40x

33x

48x

50x

71x

55x

EBIT

2021A 2022E 2023P

26x

30x

32x

40x

39x

24x

26x

29x

35x

36x

27x

39x

42x

49x

42x

Model Appendix – Debt Schedule



Tyler Technology Debt & Interest Schedule

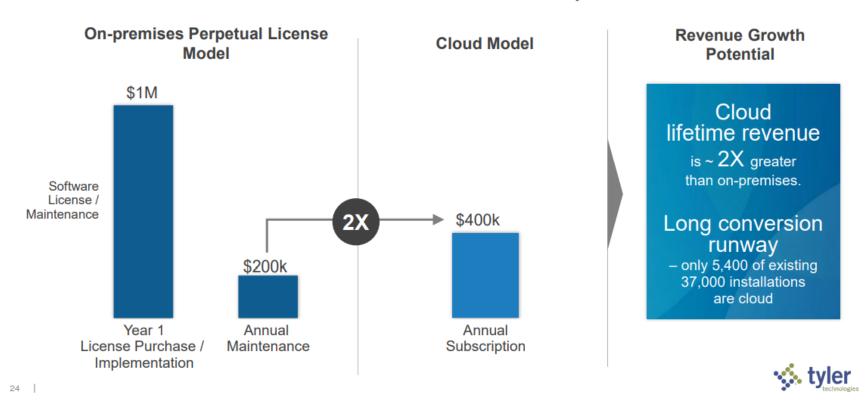
(\$ in millions)

	Estimated			Projected		
Fiscal	2022	2023	2024	2025	2026	2027
Cash Available/(Required) Before Debt	\$ 311	\$ 373	\$ 435	\$ 523	\$ 625	\$ 740
Plus: Beginning Cash on Balance Sheet	362	474	649	885	1,261	1,888
Less: Minimum Cash Balance						
Net Mandatory Debt Repayment / Borrowings	30					_
Cash Before Discretionary Debt Repayment / (Borrowing)	\$ 643	\$ 847	\$ 1,084	\$ 1,409	\$ 1,887	\$ 2,628
Senior Debt						
Beginning Balance	\$ 719	\$ 549	\$ 349	\$ 149		
Mandatory Debt Repayment	30					
Borrowings – Refinance	(200)	(200)	(200)	(149)		-
Ending Balance	\$ 549	\$ 349	\$ 149	\$ -	\$ -	\$ -
Average Balance	\$ 634	\$ 449	\$ 249	\$ 74	\$ -	\$ -
Convertible						
Beginning Balance	\$ 593	\$ 594	\$ 596	\$ 597	\$ 599	\$ 600
Convert	0.25%	0.25%	0.25%	0.25%	0.25%	
Borrowings – Refinance	1	1	1	1	1	(600
Ending Balance	594	596	597	599	600	-
Average Balance	\$ 594	\$ 595	\$ 597	\$ 598	\$ 599	\$ 300
Revolver						
Beginning Balance						
Discretionary Sweep						
Ending Balance						
Average Balance						
Total Debt, Beginning Balance	\$ 1,312	\$ 1,143	\$ 945	\$ 746	\$ 599	\$ 600
Less: Mandatory Debt Repayment	30	-	-	-	-	-
Plus: Borrowings	1	1	1	1	1	(600
Revolver Debt Borrowing / (Repayment)	(200)	(200)	(200)	(149)	-	
Total Debt, Ending Balance	\$ 1,082	\$ 1,145	\$ 946	\$ 748	\$ 600	\$ 0
Less: Current Portion						
Less: Revolver						
Total Long Term Debt						





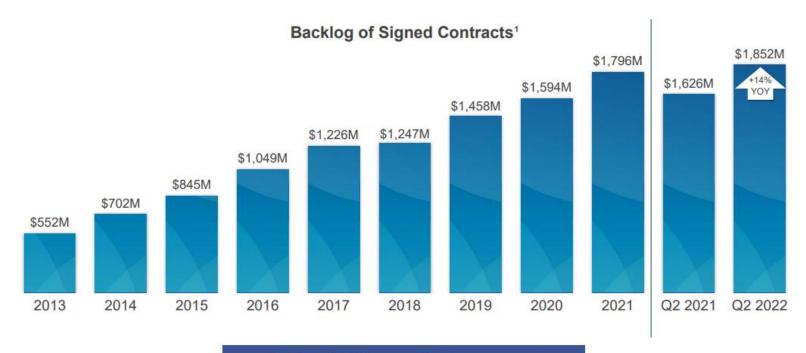
Tyler Annual Revenues Double when Existing Perpetual License Customers Move to Cloud – Illustrative Example







Growing Backlog → High Revenue Visibility



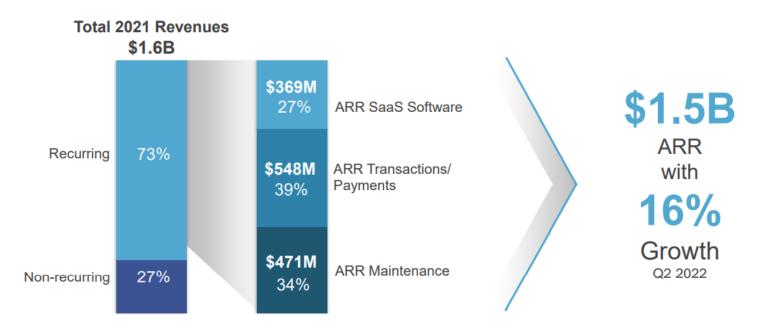
Adding 15-20 new clients every week







Tyler is Increasingly a High ARR Business





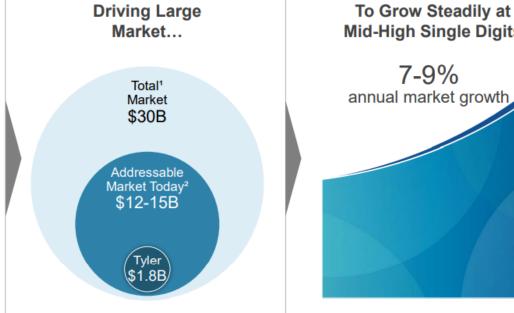


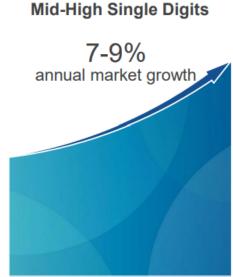


Strong Tailwinds Driving Market Growth

Strong Secular Tailwinds...

- Many antiquated government systems no longer supported
- Governments shifting systems to cloud
- Subscription services preferred for budgeting
 - once approved becomes a simple one-line item yearly





¹ Gartner - Local & Regional Government and Primary & Secondary Education spending on applications and vertical specific software and company estimates

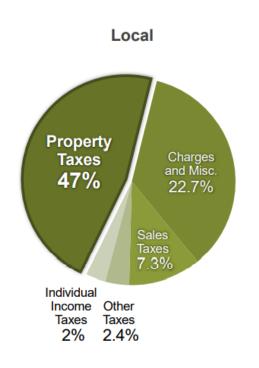


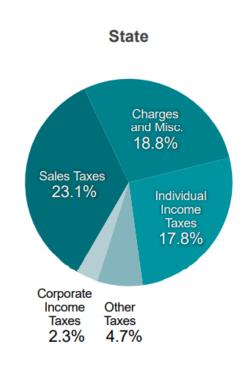


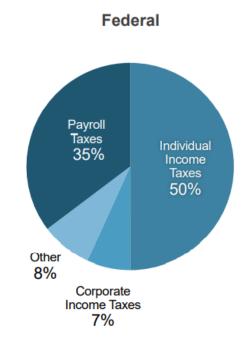




Local Government has the Most Stable Sources of Funding







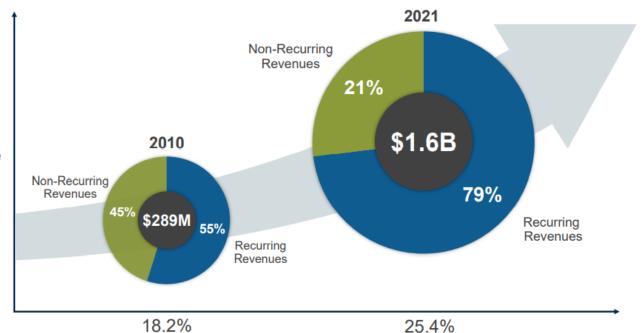






Tyler Transformation is Well Underway – With Higher Growth, Higher Long-Term Margin Profile





2% 25.4% Non-GAAP Operating Margin¹



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Appendix – Backlog Analysis

Tyler Technologies Bookings Calculation As of September 30, 2022 (in millions)

Note: Bookings are calculated as the change in backlog plus non-GAAP revenues recognized in the period.

Amounts reported under ASC 605																
Amounts reported under ASC 606	1Q19	2Q19	3Q19	4Q19	1Q20		3Q20	4Q20		2Q21			4Q21	1Q22	2Q22	3Q22
	<u>Total</u>	Total	<u>Total</u>	<u>Total</u>	<u>Total</u>		<u>Total</u>	<u>Total</u>		<u>Total</u>			<u>Total</u>	<u>Total</u>	<u>Total</u>	<u>Total</u>
Beginning Backlog	1,279 (c	1,259	1,433	1,414	1,458	1,501	1,539	1,545	1,595	1,567	(d)	1,626	1,766	1,796	1,759	1,852
Ending Backlog	1,259	1,433	1,414	1,458	1,501	1,539	1,545	1,595	1,546	1,626	ll	1,766	1,796	1,759	1,852	1,877
increase (decrease)	(20)	174	(18)	44	43	38	6	49	(48)	59	ll	141	30	(37)	93	25
Total Non-GAAP Revenues	249	278	277	287	277	271	286	283	295	405	ll	461	434	456	469	473
Bookings / Acquisitions	229	452	259	331	319	309	292	333	247	464		601	464	419	562	499
YOY change	17.1%	72.3%	1.6%	33.5%	39.8%	-31.6%	12.9%	0.5%	-22.8%	50.1%		105.7%	39.3%	70.1%	21.0%	-17.1%
Trailing 4 qtr bookings	994	1,184	1,188	1,271	1,362	1,219	1,252	1,254	1,181	1,336	ll	1,645	1,776	1,949	2,046	1,943
Trailing 4 qtr bookings	-4.1%	16.9%	18.9%	32.3%	37.0%	3.0%	5.4%	-1.3%	-13.3%	9.6%	ll	31.3%	41.6%	65.0%	53.2%	18.1%
											ll					
Maintenance bookings	71	151	110	126	76	159	118	144	80	138	ll	140	132	79	162	107
Appraisal bookings	10	1	1	5	14	(3)	5	18	5	30	ll	26	9	7	4	6
Software & services bookings	73	116	79	106	86	56	84	70	45	76	ll	84	78	96	116	85
Subscription bookings	74	184	69	95	143	97	85	101	118	221	ll	350	245	238	279	301
Total	229	452	259	331	319	309	292	333	247	464		601	464	419	562	499
											ll					
Non-GAAP Revenues (000s):																
Software & services & other	74,619	88,811	84,372	88,923	74,770	64,075	73,161	65,684	66,746	78,631	ll	81,951	78,448	85,118	87,241	92,869
Maintenance	101,015	108,774	111,107	111,937	114,410	116,804	118,024	118,454	119,112	119,620	ll	117,834	117,721	117,029	116,816	117,338
Subscriptions	67,915	74,163	75,700	80,542	81,838	85,753	89,358	93,997	102,479	200,846	ll	253,693	230,095	245,443	255,816	254,346
Appraisal	5,214	6,233	6,008	6,023	5,762	4,697	5,394	5,273	6,465	6,265	ll	7,146	7,912	8,518	8,812	8,638
Total	248,763	277,981	277,187	287,425	276,780	271,329	285,937	283,408	294,802	405,363		460,624	434,176	456,108	468,685	473,191
											ll					
Backlog (000s):																
Software & services & other	374,349	401,434	396,388	413,551	424,618	416,672	427,035	431,542	409,297	413,130	ll	415,167	414,319	425,073	453,965	446,170
Maintenance	352,863	394,791	393,291	407,256	368,872	411,284	411,492	436,833	397,480	416,098		438,640	452,874	414,687	460,229	449,690
Subscriptions	489,107	599,163	592,180	606,266	667,589	679,232	675,240	682,204	697,387	731,057		827,814	842,905	835,591	859,071	905,736
Appraisal	42,183	37,234	32,468	31,042	39,672	31,632	31,363	43,946	42,111	65,456		84,664	85,762	83,814	78,802	75,794
Total	1,258,502	1,432,622	1,414,327	1,458,115	1,500,751	1,538,820	1,545,130	1,594,525	1,546,275	1,625,741		1,766,285	1,795,860	1,759,165	1,852,067	1,877,390

⁽a) The beginning backlog balance has been adjusted for the New World acquired backlog of approximately \$70 million.

⁽b) Q4 2015 backlog reflects a reclassification from previously reported amounts to conform to current presentation.

⁽c) The beginning backlog for Q1 2019 has been adjusted for the MicroPact acquired backlog of approximately \$32 million.

ALPHA CHALLENGE The University of North Carolina

Appendix - Tyler TV Multiple

Tyler Technology

Discounted Cash Flow Analysis

(\$ in millions, except per share data)

		Estimated	Projected							
Fiscal	2022		2023	2024	2025	2026	2027			
EBITDA		\$ 497	\$ 497	\$ 584	\$ 720	\$ 875	\$ 1,044			
EBIT		460	457	552	685	835				
Less: Cash Taxes @ 24.0%	• • • • • • • • • • • • • • • • • • •	103	109	132	164	200				
Tax-effected EBIT		\$ 357	\$ 348	\$ 420	\$ 521	\$ 635				
Plus: Depreciation & Amortization		37	39	32	36	40				
(Less): Capital expenditures		(20)	(20)	(20)	(20)	(20)				
Plus / (Less): Change in net working capital	_	(27)	18	17	20	22				
Unlevered free cash flow		\$ 348	\$ 385	\$ 449	\$ 556	\$ 677				
Discount Periods		0.25	1.25	2.25	3.25	4.25				
WACC @ 8.0%										
NPV of Unlevered free cash flow @ 8.0%		\$ 341	\$ 349	\$ 378	\$ 433	\$ 488				
EBITDA MULTIPLE METHOD										
Terminal Value	<u>u</u>	Indiscounted	Discounted							
EBITDA Multiple	20.0x	\$ 20,879	\$ 15,054							
	25.0x	\$ 26,098	\$ 18,818							
DCF Range (Implied Enterprise Value)				\$ 15,054 -	- \$ 18,818					
Net Debt			<u> </u>		\$ 851					
Equity Value (a)				\$ 14,203 -	A 1- 00-					
Implied Price per Share (b)				\$ 317.44	\$ 401.56					



Appendix – Bear Case Valuation

3-Stage DCF

			WACC		
\$ 369.49	7.00%	7.25%	7.50%	7.75%	8.00%
4.50%	577	519	471	430	395
4.00%	492	450	413	381	353
3.50%	432	399	369	344	321
3.00%	386	360	336	314	295
2.50%	351	329	309	290	274

Multiples DCF

			WACC		
\$ 383.64	7.00%	7.25%	7.50%	7.75%	8.00%
24x	467	461	454	448	442
22x	431	425	419	413	408
20x	394	389	384	378	373
18x	358	353	348	344	339
16x	322	317	313	309	304

Fiscal	2024
Diluted Earnings per Share	\$ 9.72
Haicut FWD P/E	25)
Target price	\$242.94

We use an expanded range from our DCFs and 1 year forward multiple exiting 2023 to derive an average downside case of \$274



Appendix – Comparable Multiple Analysis

Analysis of Vertical Software Companies Financial Summary

(All figures in millions, except for per share data and as otherwise noted)

		Stock Price	Equity	Enterprise		Revenue			EBITDA			EBIT			EPS	
Company	Ticker	11/19/22	Value	Value (a)	2021A	2022E	2023P	2021A	2022E	2023P	2021A	2022E	2023P	2021A	2022E	2023P
Ansys	ANSS	243.76	21,570	21,691	1,931	2,026	2,189	906	878	1,087	800	842	919	7.31	7.70	8.38
Synopsis	SNPS	326	51,872	50,361	4,204	5,080	5,670	1,402	1,817	2,099	1,281	1,682	1,959	6.84	8.85	10.14
Cadence Design	CDNS	165.02	46,432	46,053	2,988	3,547	3,867	1,240	1,580	1,768	1,106	1,427	1,581	3.29	4.23	4.65
SPS Commerce	SPSC	129	4,796	4,559	385	450	525	107	131	153	93	114	131	1.82	2.47	2.87
Manhattan Software	MANH	121.54	7,758	7,561	664	749	909	186	197	216	178	192	208	2.23	2.61	3.03

Valuation Multiples

				Enterprise Value as a Multiple of											Price as a Multiple of		
		LFY Ma	LFY Margins		Revenue			EBITDA			EBIT			Earnings per Share			
Company	Ticker	EBITDA	EBIT	2021A	2022E	2023P	2021A	2022E	2023P	2021A	2022E	2023P	2021A	2022E	2023P		
Ansys	ANSS	46.9%	41.4%	11x	11x	10x	24x	25x	20x	27x	26x	24x	33x	32x	29x		
Synopsis	SNPS	33.3%	30.5%	12x	10x	9x	36x	28x	24x	39x	30x	26x	48x	37x	32x		
Cadence Design	CDNS	41.5%	37.0%	15x	13x	12x	37x	29x	26x	42x	32x	29x	50x	39x	35x		
SPS Commerce	SPSC	27.8%	24.1%	12x	10x	9x	43x	35x	30x	49x	40x	35x	71x	52x	45x		
Manhattan Software	MANH	28.0%	26.8%	11x	10x	8x	41x	38x	35x	42x	39x	36x	55x	47x	40x		

SELECTED	HIGH	46.9%	41.4%	15x	13x	12x	43x	38x	35x	49x	40x	36x	71x	52x	45x
COMPS A	AVERAGE	35.5%	32.0%	12x	11x	10x	36x	31x	27x	40x	33x	30x	51x	41x	36x
	MEDIAN	33.3%	30.5%	12x	10x	9x	37x	29x	26x	42x	32x	29x	50x	39x	35x
	LOW	27.8%	24.1%	11x	10x	8x	24x	25x	20x	27x	26x	24x	33x	32x	29x
Tyler Technologies	TYL	26.5%	25.5%	9x	8x	7x	34x	29x	29x	35x	31x	31x	46x	41x	39x

Source: Factset Consesus estimates.

Appendix – Proxy Info



Elements of Executive Compensation

We believe that sustained achievement of measurable financial objectives leads to increased stockholder value. As such, a significant portion of our Named Executive Officers' target total direct compensation is "at-risk" and based on the achievement of annual and long-term financial objectives. Linking our executive officer compensation to challenging performance objectives creates a strong incentive to achieve both short-term growth and profitability objectives and to create sustainable long-term value for our stockholders.

Element	Form of Compensation	Purpose	2021 Metric
Base salary	Cash	Provide competitive, fixed compensation to attract and retain executive talent with the specific skills and experience needed to drive continued growth	Base salary is a fixed component and changes to salary, when made, are dependent on individual performance, peer and market comparisons and retention goals
Annual Incentive compensation	Performance- based restricted stock units (PSUs)	Provides reward for achieving or exceeding annual financial performance goals	Achievement of adjusted earnings per share goals (Non-GAAP), which are recommended by the CEO and approved by the Compensation Committee
Long-term equity-based compensation	Performance- based restricted stock units (PSUs) and stock options	Create a strong financial incentive for stockholder value creation with significant Company equity stake linked to long-term, future Company performance	· · · · · //

Appendix - Proxy Info



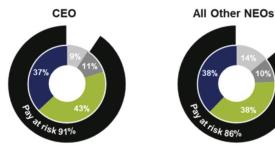
Annual salary represents the single fixed component of the three principal elements of our executive compensation program and is intended to provide a baseline minimum amount of annual compensation for our executives. In February 2021, the Compensation Committee approved maintaining annual salaries for each of the Named Executive Officers at the time. This excluded Mr. Puckett, who received an increase in March of 2021 of 11.1% associated with additional duties and scope prior to being confirmed by the Board of Directors as a Named Executive Officer in May 2021.

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Name	Increase	2020	2021
John S. Marr, Jr.	0.0%	\$300,000	\$300,000
H. Lynn Moore, Jr.	0.0%	\$525,000	\$525,000
Brian K. Miller	0.0%	\$400,000	\$400,000
Jeffrey D. Puckett ⁽¹⁾	11.1%	\$270,000	\$300,000

(1) Mr. Puckett was added as a Named Executive Officer on May 11, 2021.

The review and approval of increases by our Compensation Committee to our other Named Executive Officers was based on multiple factors. First, the Committee reviewed the Peer Group and Radford Survey data which included comparisons for comparable roles in similar-sized companies with annual revenues between \$500 million and \$2 billion. The annual salary approved by the Committee for 2021 is below the peer group median by 29%, 9%, and 13% for our CEO, Executive Chair and CFO, respectively. It is 30% lower, 20% lower, and 16% lower than the Radford Survey median annual salary for our CEO, Executive Chair and CFO, respectively. Mr. Puckett's compensation was not included in this annual review in 2021 as it occurred prior to his addition as a Named Executive Officer.



- Annual Salary
- ■Annual Incentive (PSUs)
- Long-Term Incentive (PSUs)
- Long-Term Incentive (Options)



Appendix –Ownership Analysis

Rank	Туре	%OS	Position (000)	Pos Chg (000) [Recent]	Mkt Val (MM)	% Port	Activism	Report Date	Source
-	Total	48.35	20,131	-156	6,310	-	-	-	-
_	Institutions	47.15	19,634	-171	6,154	-	-	-	-
1	The Vanguard Group, Inc.	10.89	4,537	44	1,422	0.02	Very Low	09/30/2022	13F Form
2	BlackRock Fund Advisors	6.02	2,509	56	786	0.02	Medium	09/30/2022	13F Form
3	SSgA Funds Management, Inc.	3.72	1,548	10	485	0.02	Very Low	09/30/2022	13F Form
4	Principal Global Investors LLC	3.38	1,407	-57	441	0.25	Very Low	09/30/2022	13F Form
5	AllianceBernstein LP	3.27	1,361	-86	427	0.13	Medium	09/30/2022	13F Form
6	APG Asset Management NV	3.17	1,319	-8	413	0.33	Very Low	09/30/2022	13F Form
7	Brown Capital Management LLC	2.67	1,111	-25	348	3.83	Very Low	09/30/2022	13F Form
8	Capital Research & Management Co. (World Investors)	2.45	1,019	4	319	0.04	Very Low	09/30/2022	13F Form
9	Ownership Capital BV	2.19	912	-75	286	5.08	Very Low	09/30/2022	13F Form
10	Geode Capital Management LLC	2.05	853	9	267	0.03	Very Low	09/30/2022	13F Form
11	Franklin Advisers, Inc.	1.57	654	48	205	0.07	Medium	09/30/2022	13F Form
12	Janus Henderson Investors US LLC	1.54	641	-98	201	0.12	Very Low	09/30/2022	13F Form
13	Massachusetts Financial Services Co.	1.49	619	0	194	0.04	Very Low	09/30/2022	13F Form
14	Artisan Partners LP	1.42	591	-2	185	0.18	High	09/30/2022	13F Form
15	Invesco Advisers, Inc.	1.33	554	8	174	0.05	Very Low	09/30/2022	13F Form
-	Insiders / Stakeholders	1.19	497	14	156	-	-	-	-
1	King John Luther Jr	0.39	164	23	51	100.00	-	05/12/2021	Form 4 Chgs Ben Ownership
2	Womble Dustin R	0.33	139	0	43	100.00	-	05/12/2022	Form 4 Chgs Ben Ownership
3	Moore H Lynn Jr	0.21	86	0	27	100.00	-	06/30/2022	Form 4 Chgs Ben Ownership
4	Marr John S Jr	0.14	58	-6	18	100.00	-	06/08/2022	Form 4 Chgs Ben Ownership
5	Miller Brian K	0.12	51	-2	16	100.00	-	11/11/2022	Form 4 Chgs Ben Ownership





