AUTM
2021

LEVERAGING PERFORMANCE METRICS:
A GOOD IDEA FOR MANY REASONS

AUTM Webinar
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TODAY'S GOALS

Understanding purpose and benefits of technology transfer performance metrics

Identifying which metrics to use and how

How best to present information for decision-making and influencing

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WHY LOOK AT METRICS

- Proactively manage organization
  - Processes and procedures
  - People and departments/colleges
- Informing and educating
  - Administration and faculty
  - Legislatures
  - Public and alumni
- Respond to changes
  - Administration
  - Budget
- Make informed decisions

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WHAT PEERS SHOULD BE USED

- External perspective
  - Type of institution
  - Medical v. no medical
  - Eliminate outliers and anomalies
  - Ignore NCAA division

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WHAT PEERS SHOULD BE USED

- Vanderbilt
  - Duke
  - Emory
  - Johns Hopkins
  - UNC
  - Penn
  - Wash U
  - Northwestern

- Auburn
  - Clemson Univ.
  - Colorado State Univ.
  - Iowa State Univ.
  - Kansas State Univ. Research Fdn.
  - Mississippi State Univ.
  - Montana State Univ.
  - New Jersey Inst. of Technology
  - North Carolina State Univ.
  - Oklahoma State Univ. **(med school)
  - Oregon State Univ.
  - Purdue Research Fdn.
  - Univ. of Arkansas Fayetteville
  - Univ. of Delaware
  - Univ. of Georgia
  - Univ. of New Hampshire
  - Washington State Univ.

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IDENTIFYING A PEER GROUP

- Use defensible criteria
- Apples to apples
- What is your audience and purpose? Internal reviews can welcome a harsher analysis than one that goes to superiors or out to public
- Auburn's self-identified peer group (16 schools):
  - Public land grants + R1 + no med school
  - Moderately aspirational (Auburn just became an R1)

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ALTERNATE OPTIONS

- Other criteria can be considered for more of a true peer group
  - Remove schools more than 2x difference in research expenditures
  - Limit to "college towns" (population centers < 100k); little change
  - Find your own criteria
- You may have to do your NCAA conference (or similar)

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WHAT DATA TO USE - SOURCE

- AUTM Survey
  - Over 180 institutions in 2018
  - Universities, research institutes/hospitals, corporations, national labs
  - Accessible (free to participants)
  - Publish summary results
- Internal data
  - Institution (usually reported to AUTM)
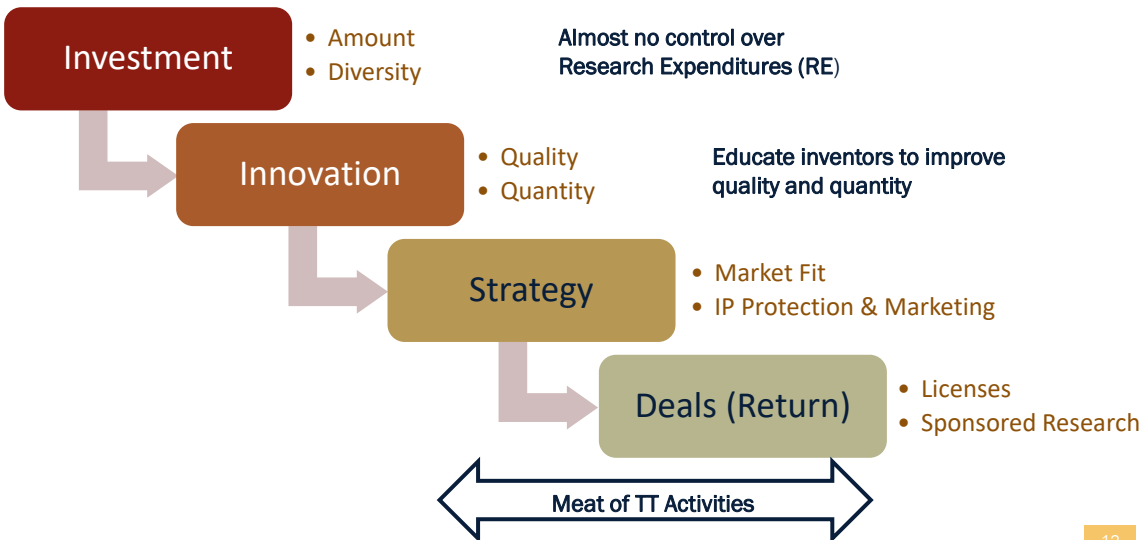 - People
  - Departments
  - Colleges

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SEQUENTIAL IMPACT OF DATA

Investment
- Amount
- Diversity

Almost no control over Research Expenditures (RE)

Innovation
- Quality
- Quantity

Educate inventors to improve quality and quantity

Strategy
- Market Fit
- IP Protection & Marketing

Deals (Return)
- Licenses
- Sponsored Research

Meat of TT Activities

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NORMALIZE THE DATA

Normalizing factor is $10M RE to create standard scale and allow for apples-apples comparisons (e.g., invention disclosures per $10M RE)

Ratios (e.g., licensing income per license or FTE) also provide insight into performance

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TREND ANALYSIS

- Time period
- Anomaly issues

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METRICS AND COMBINATIONS

2018 Metrics	AUTM Average	Medschool Average	No-Medschool Average	Vanderbilt	Auburn
RE Total	$387,879,014	$532,593,088	$191,434,345	$727,388,821	$212,925,000
Licenses Executed per $10 M RE	1.05	0.86	1.99	0.93	0.61
Licensing Income per $10 M RE	$402,963	$309,058	$151,303	$216,701	$54,793
Invention Disclosures per $10 M RE	3.6	3.5	4.4	2.9	3.1
Invention Disclosures per Total Office FTE	10.2	10.0	14.1	7.9	5.8
Licensing Income per License	$135,920	$107,818	$41,118	$56,497	$20,115
Running Royalty Income per Royalty Licenses	$176,347	$125,747	$66,508	$42,996	$16,357
Licensing Income per Legal Fees	7.0	5.5	3.0	4.6	2.7
Reimbursed Legal Fees per Total Legal Fees	45.9%	47.7%	42.5%	44.6%	9.8%
Licenses to Startups per Total Licenses	19.2%	24.3%	12.3%	25.0%	23.1%

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AUBURN UNIVERSITY

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PROCESSING DATA

- Select categories to consider
- Normalize with respect to sponsored research
- Auburn looks at <u>3-year rolling average</u> to minimize noise, aberrations
- We normalize again with respect to maximum value in each category
  - All data can easily go on same chart, with values between 0 and 1
- We focus on median values
  - Using means can be adversely affected by outliers
  - Removing outliers can be hard to justify to your superiors
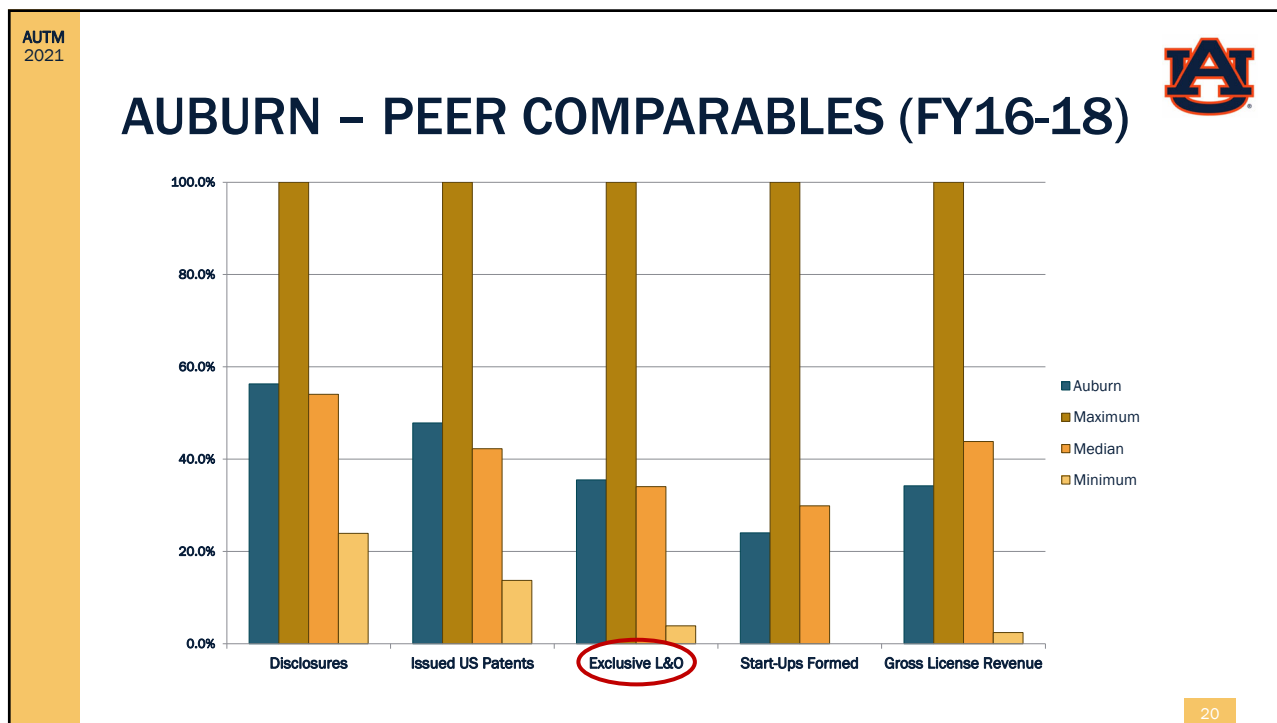
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AUBURN PEER COMPARABLES (FY16-18)

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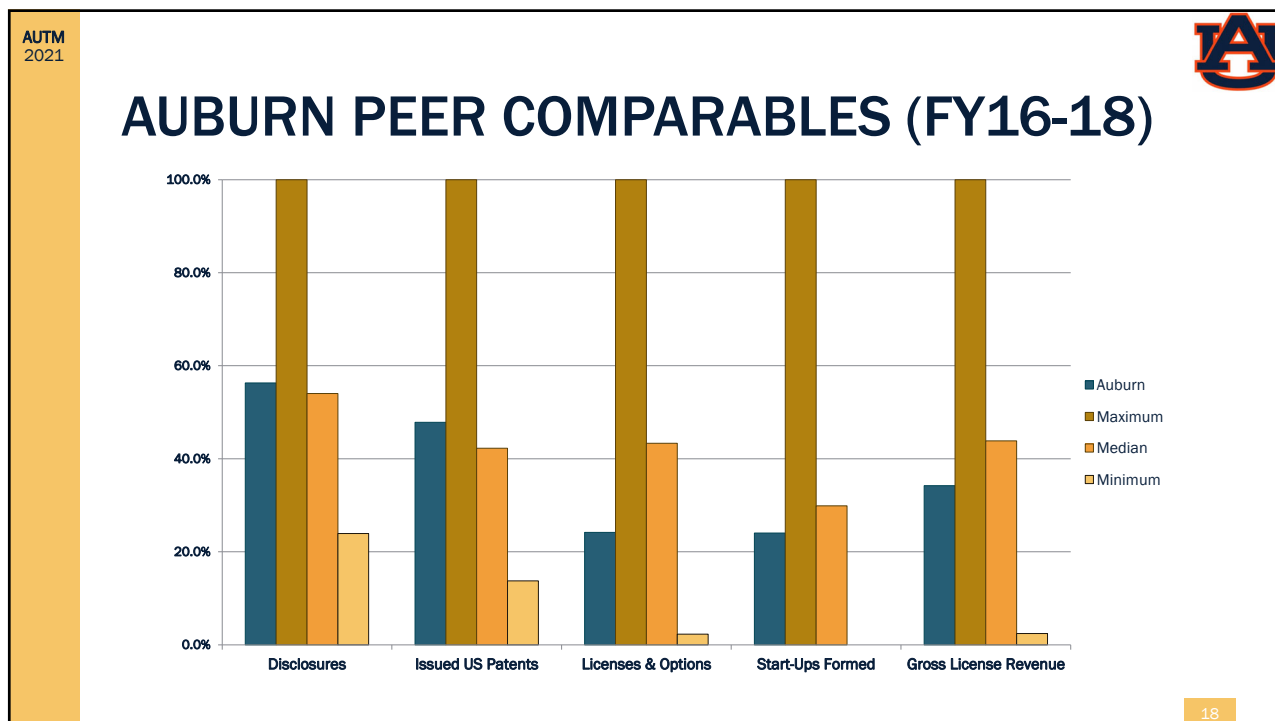
ANALYZING DATA

- Auburn is generally median
  - Not bad in moderately aspirational group
- No need to panic, but room for improvement
- Did have to consider outliers in Licenses & Options
  - Took some explaining
  - Then switched to **exclusive licenses & options**

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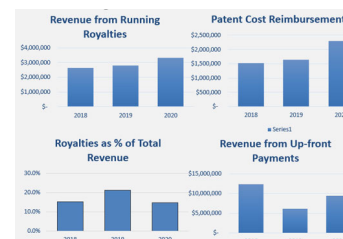# AUBURN – PEER COMPARABLES (FY16-18)

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FY20 VANDERBILT TOTAL REVENUE

ANALYZING DATA

- **Is royalty revenue increasing with time?**
  - No "home run" royalty generator
  - Have we set the table by maximizing deals with long-term potential value?
  - Is there evidence that the trend is upwards, and sustainable?
- **Royalties as a percent of total income – what does "below 30%" mean?**
  - We will struggle to meet our revenue metrics year-over-year
  - Must find alternative sources of income until royalty income grows
  - How does that affect our business/decision-making?
- **Revenue from up-front payments**
  - Must find ways to identify large up-front opportunities
  - Must develop methods of more accurate forecasting of up-fronts at least 12 months out
  - "If you can tell me what technologies you will disclose next year, then I'll tell you how much up-front's I can generate from them" – error bars are big, big
- **Why are patent cost reimbursements important to track?**
  - We get to keep 100% of the income instead of 50%
  - We have a limited patent budget and need to be able to recycle funds
  - Do we need to place increased emphasis on recuperating expenses, or develop policies requiring reimbursement?
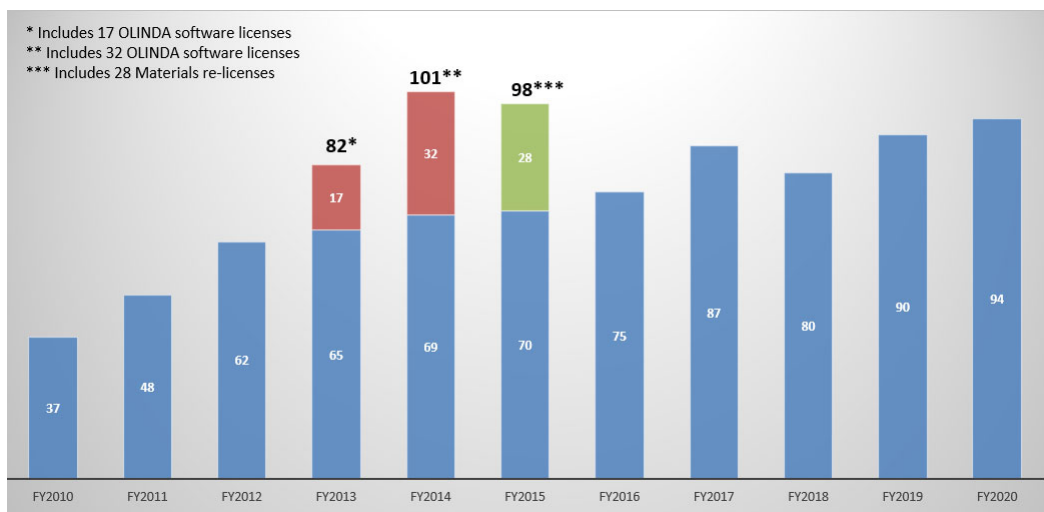
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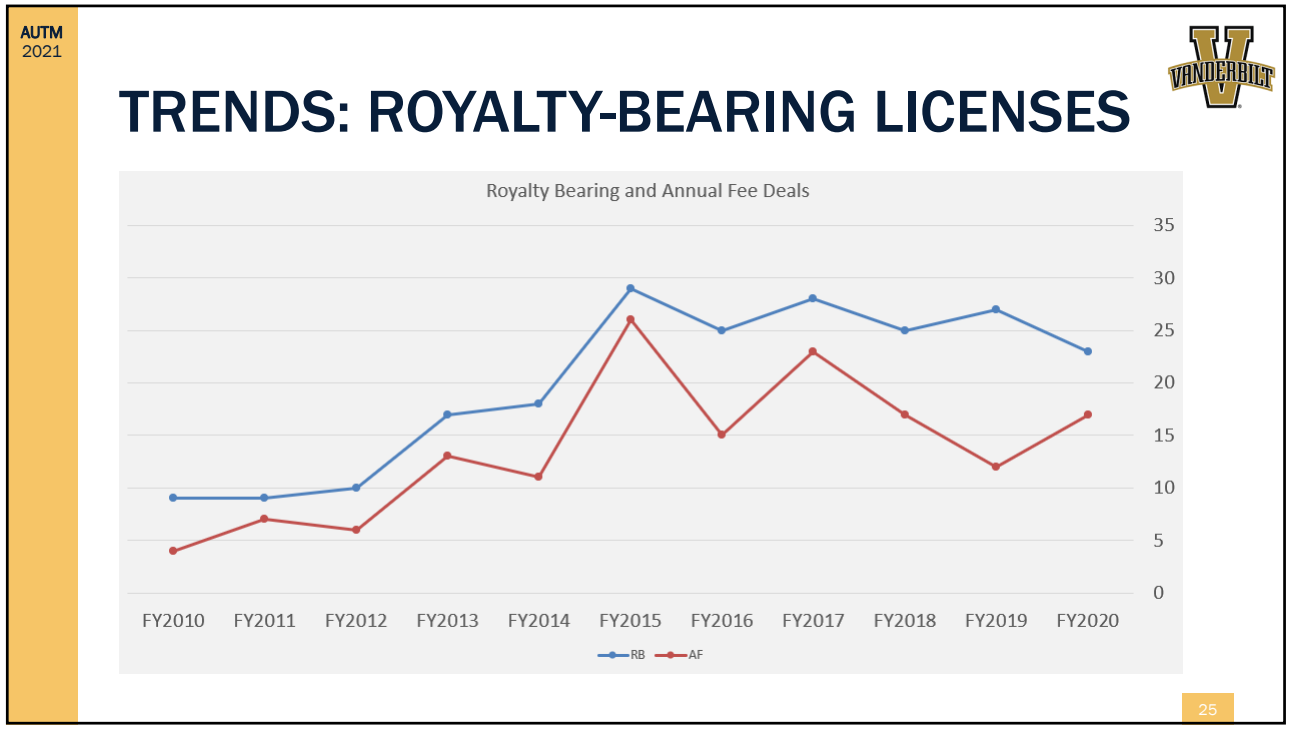# VANDERBILT TRANSACTION TOTALS

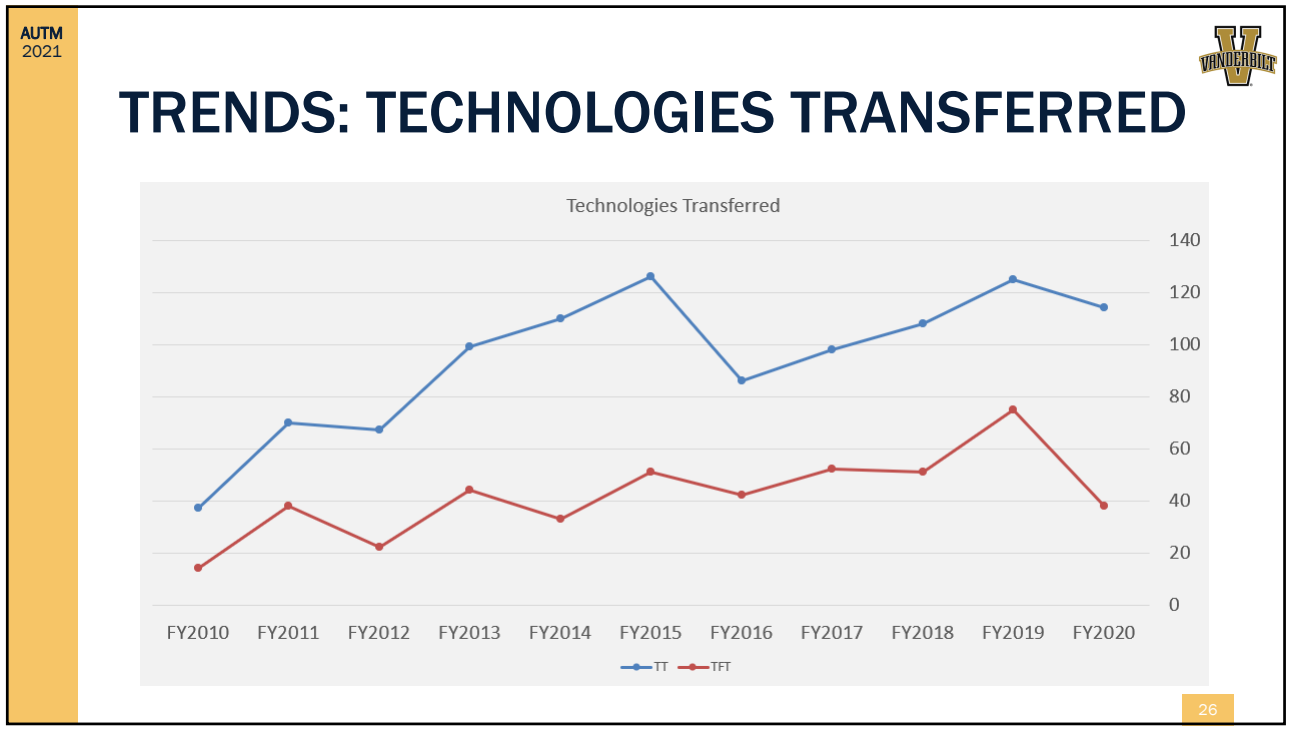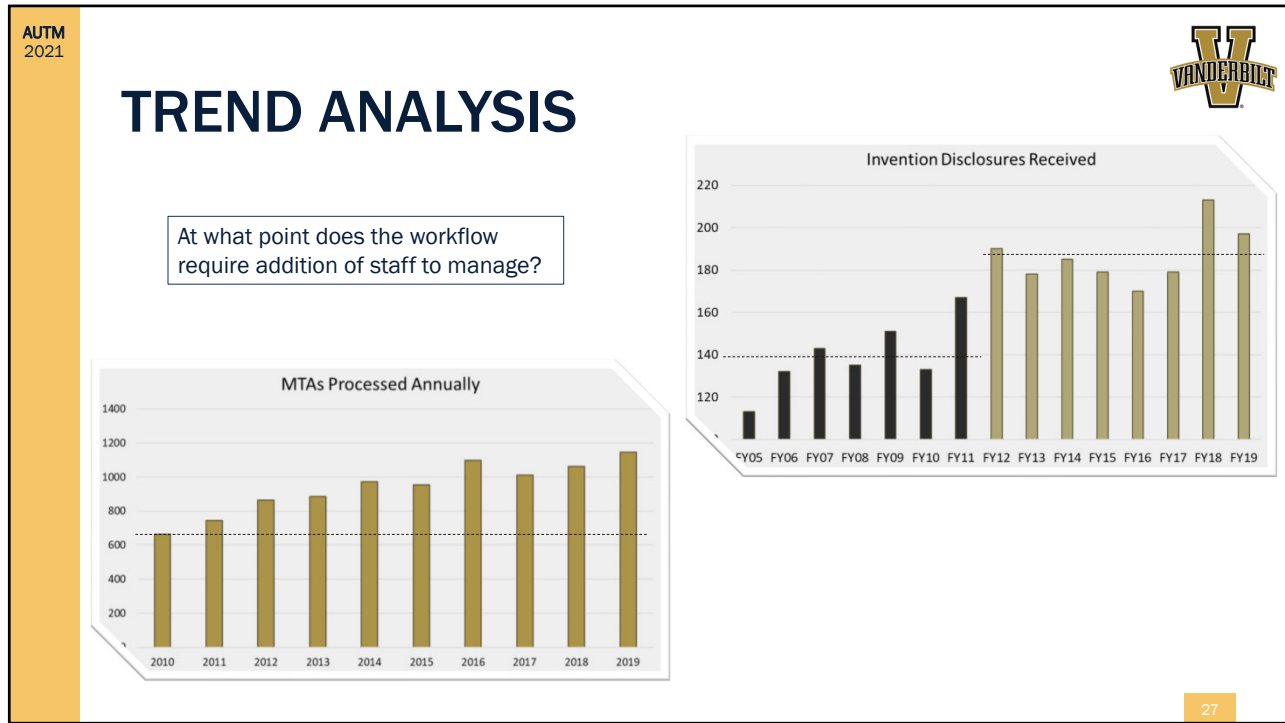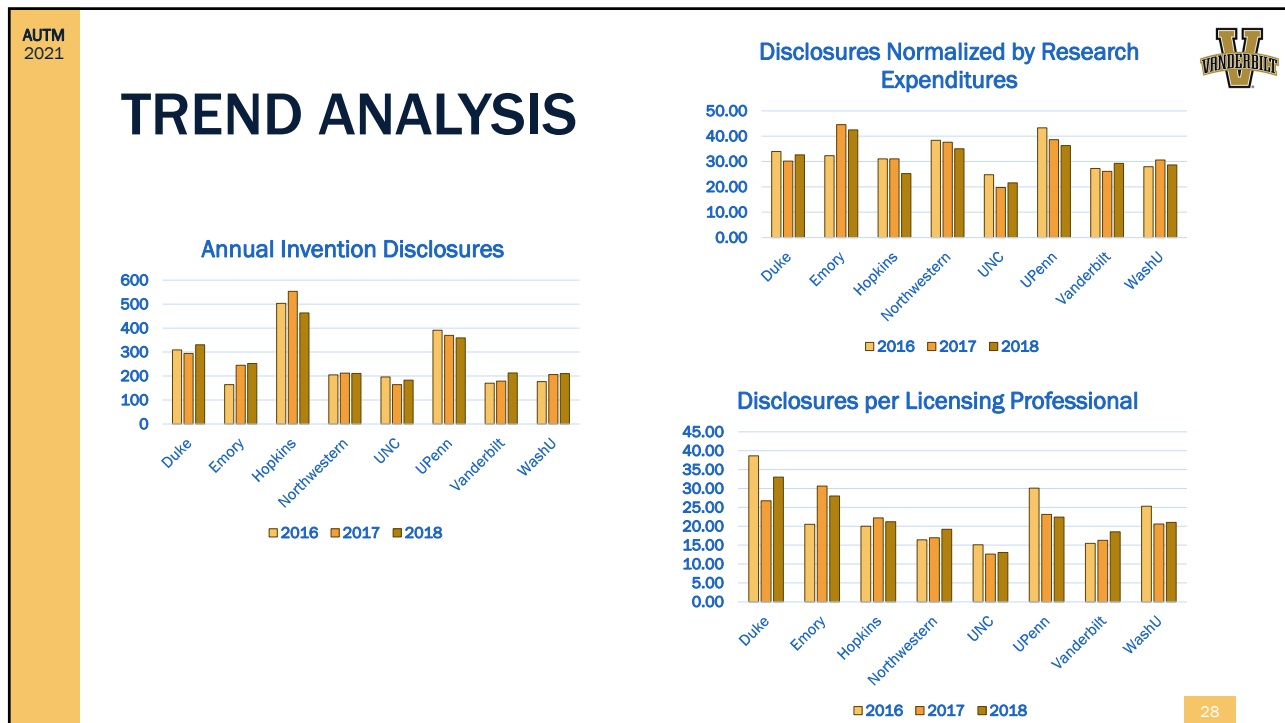* Includes 17 OLINDA software licenses
** Includes 32 OLINDA software licenses
*** Includes 28 Materials re-licenses

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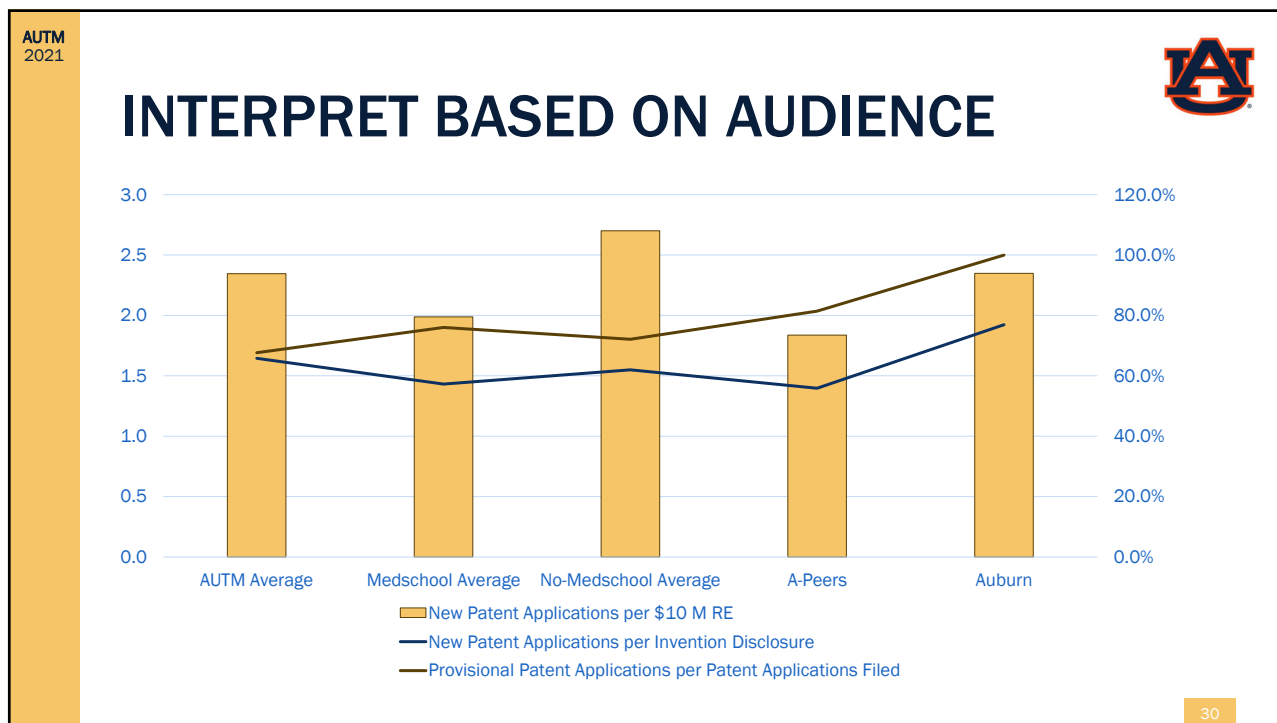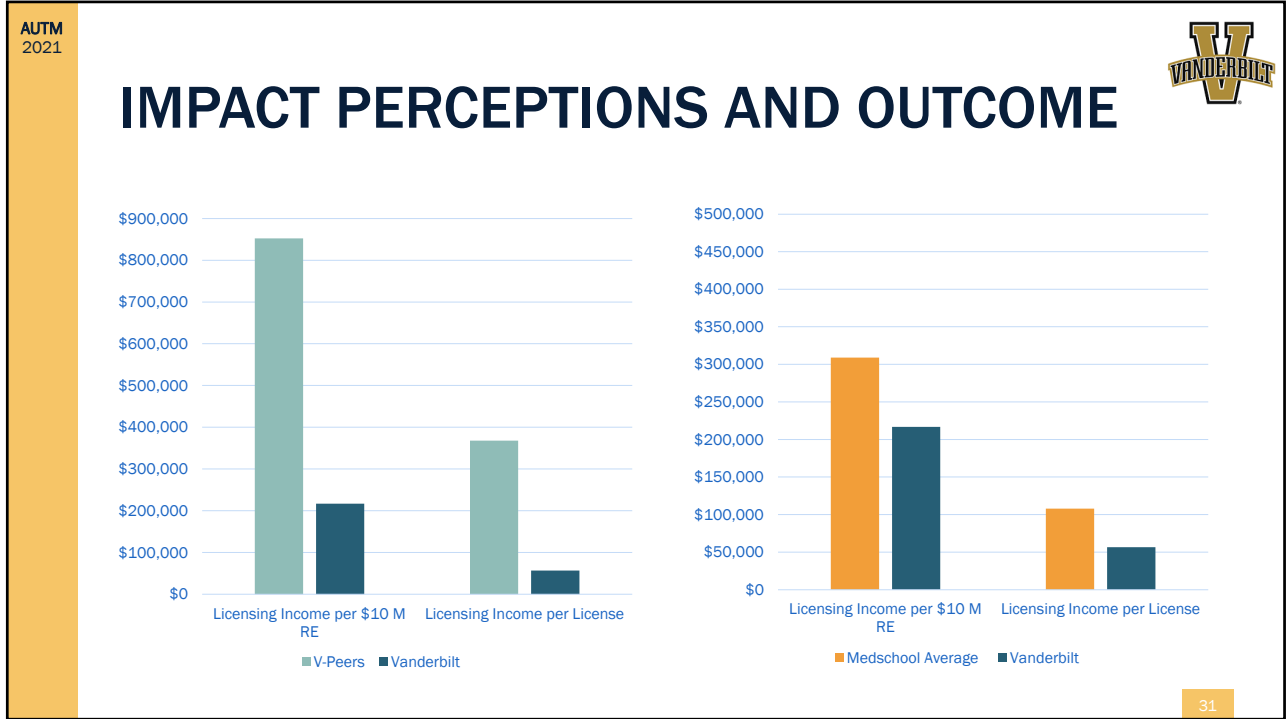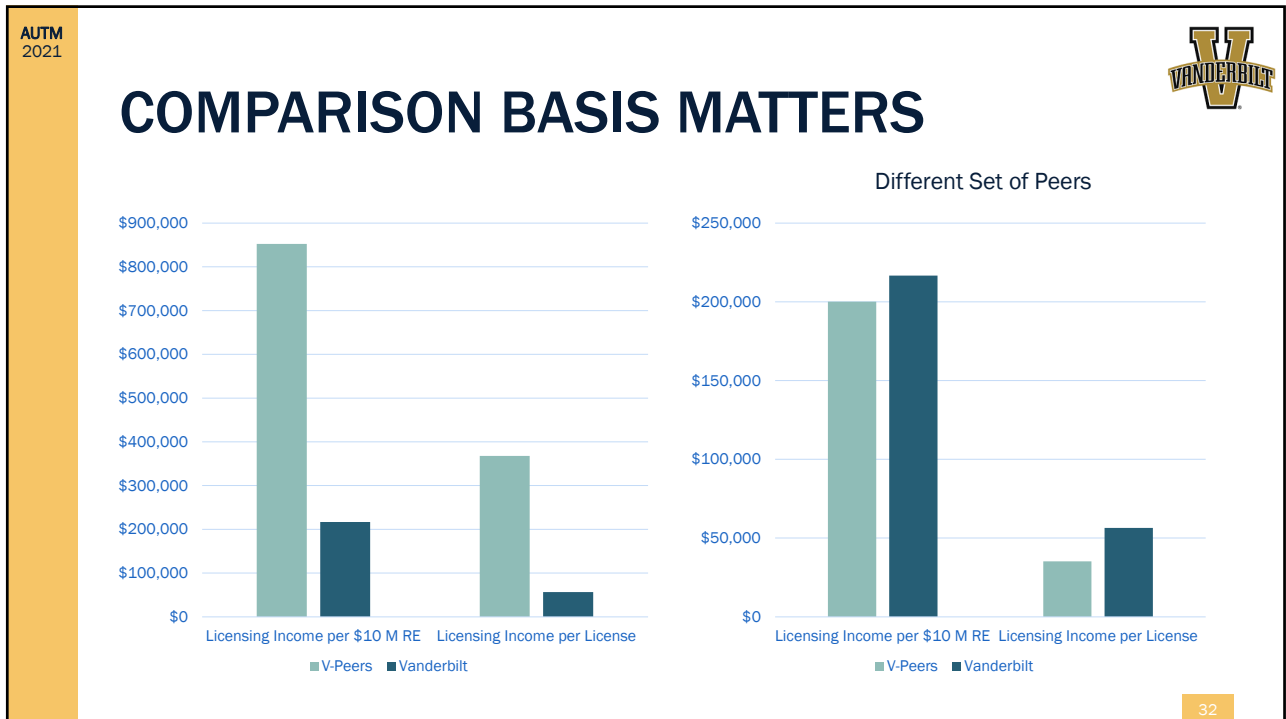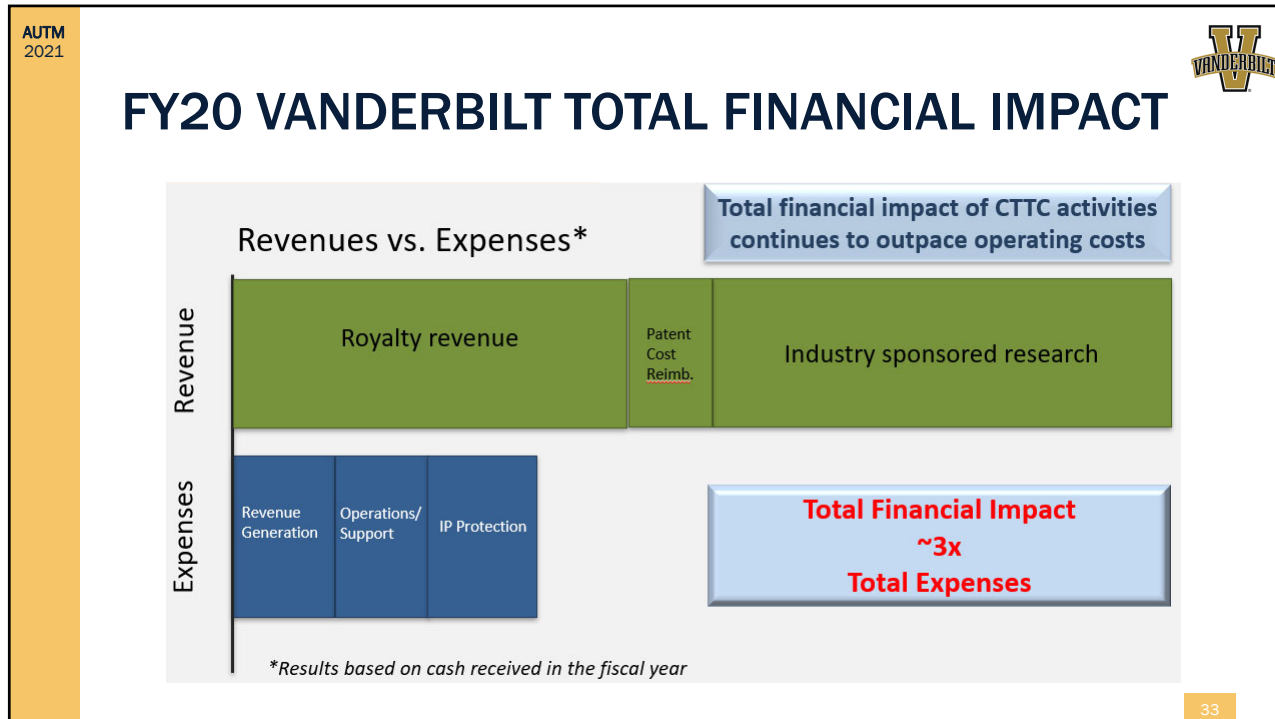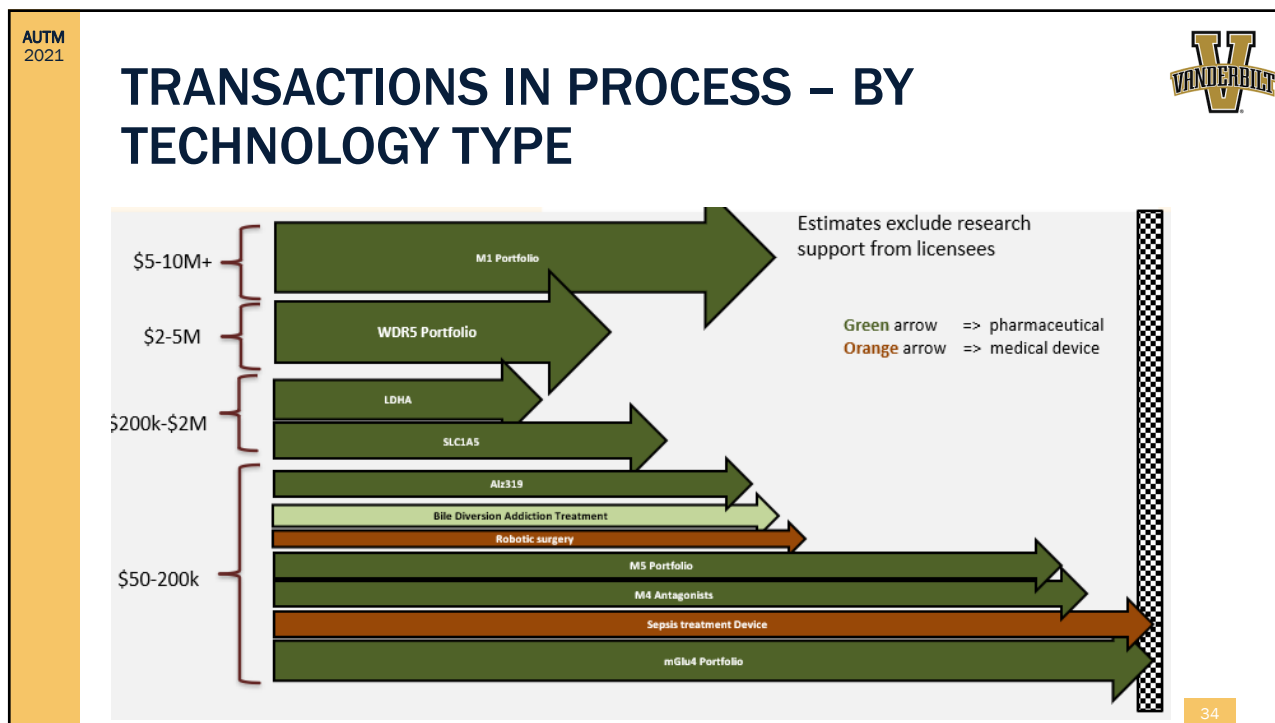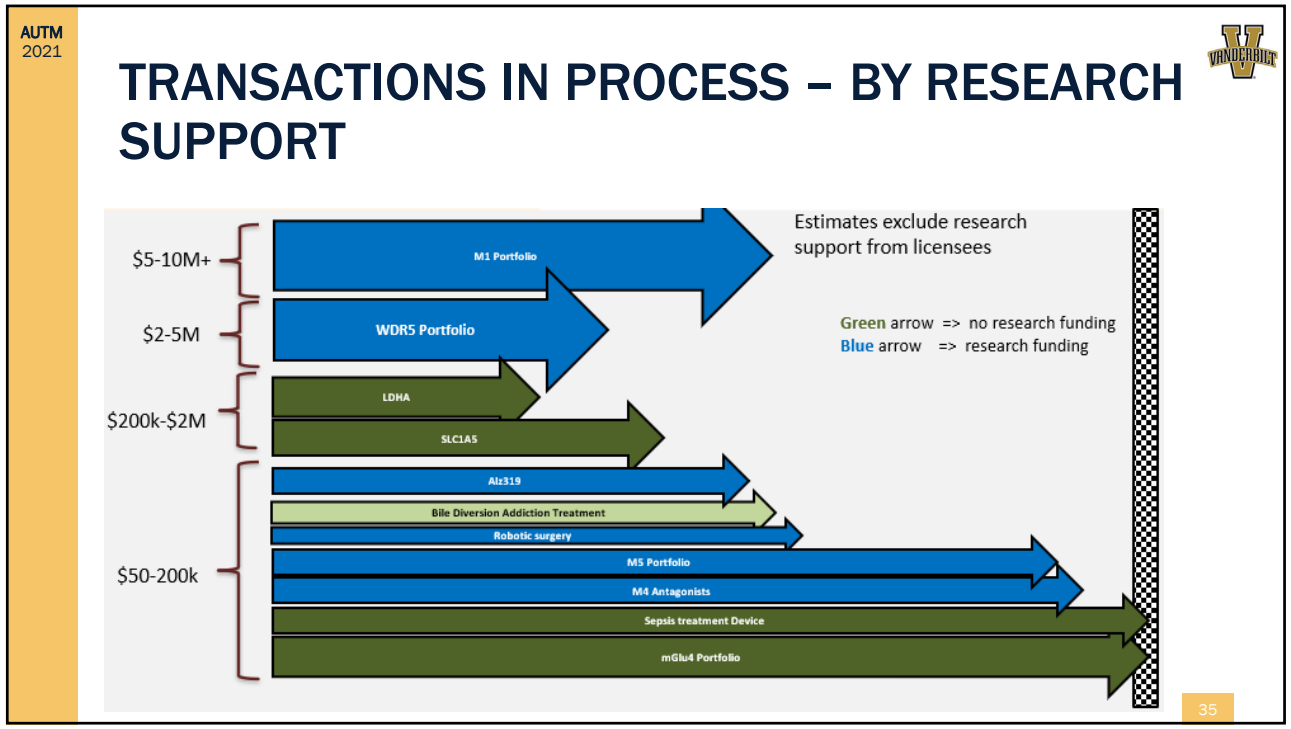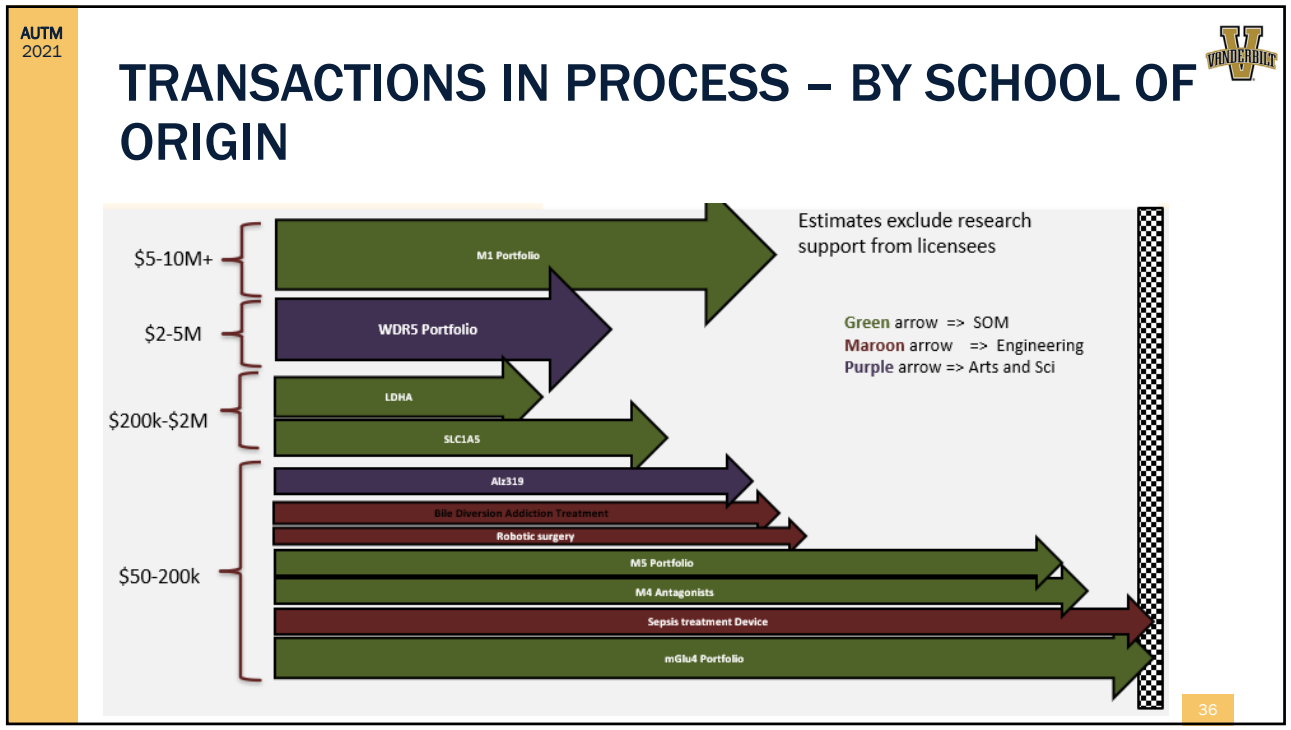
OUTCOMES AND ACTIONS

- Know your data and what it means
- Monitor and adjust performance
- Inform and educate regularly to influence decisions
- Avoid surprises

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AUBURN ACTIONS

- Disclosures and patents looked solid
  - Have implemented new strategies to maintain/increase disclosures
  - Patent numbers hard to affect directly without budget initiative
- Re-assessed and revamped marketing efforts
  - Redesigned web listings (Flintbox)
  - Using third party marketing services (IN-PART; FirstIgnite)
- Start-ups: those numbers gave encouragement
  - Already a university-wide interest to improve entrepreneurship/start-ups (faculty + students)
  - This assured people that we weren't starting at zero, even though it felt like it sometimes
- License Revenue
  - Often the biggest focus but the hardest to directly affect
  - Strategy: wait for FY20 numbers so our windfall puts us above median

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AUBURN OUTCOMES

- Had prominent doubters on campus
  - "We're just not very good at commercialization"
  - No evidence provided
- This data has been useful in countering that train of thought

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VANDERBILT OUTCOMES

- MTA analysis led to two tangible actions:
  - Creating MTA automation software program (MTAShare) to increase processing bandwidth
  - Create a specific "corporate contracts" group – responsible for MTAs, CDAs, industry and foundation research agreements, etc
- Tracking and measuring "total impact" (licensing income + industry research) enabled us to place emphasis on industry engagement and selling Core Research Capabilities, not just Technologies.
  - Entire new set of office and individual metrics developed around this structure
- Several departments have been convinced for years that we "do not patent enough." Showing peer data on patenting activities, normalized by $10M RE, helped put those arguments to bed.
- Tracking and forecasting licensing income allowed us to recognize the struggle with positively affecting annual income without a Home Run, leading to the creation and tracking of a new metric to help measure and explain our long term impact on the university – Fixed Contract Value.

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FIXED CONTRACT VALUE METRIC

{Numbers provided for exemplary purposes}

	Deals	Licenses	Options	Fixed Contract Value
FY2020	94	81	13	$ 250M
FY2019	90	80	10	$ 125M
FY2018	81	68	13	$ 100M
FY2017	87	77	10	$ 50M
FY2016	75	63	12	$ 10M
FY2015	98	87	11	$ 18M
FY2014	101	91	10	$ 3M

FCV/Deal

- "Fixed Contract Value" – face-value of all fixed cash amounts included in the deal
- Includes:
  1) all potentially achievable milestones included (limited to 1st indication only, and reasonable limits on # of iterations in pharma deals)
  2) Full value of Minimum Annual Royalties for each year, up through first 10 contract years (not 10 years of MARs)
  3) Equity, valued at the % times dilution threshold (if no dilution threshold, counts as $0)
  4) Past patenting costs explicitly identified ($ amount) in the agreement
  5) Other fixed dollar amount fees that should, in the normal course of development, if all goes well, be paid
- Does NOT Include:
  1) Running royalties
  2) Assignment/Transfer Fees (unless written in as a milestone payment)
  3) Diligence extension fees
  4) Amounts creditable against other fixed fees already counted

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QUIZ – WHAT'S GOING ON

RE Total — Federal RE per Total RE — Industry RE per Total RE
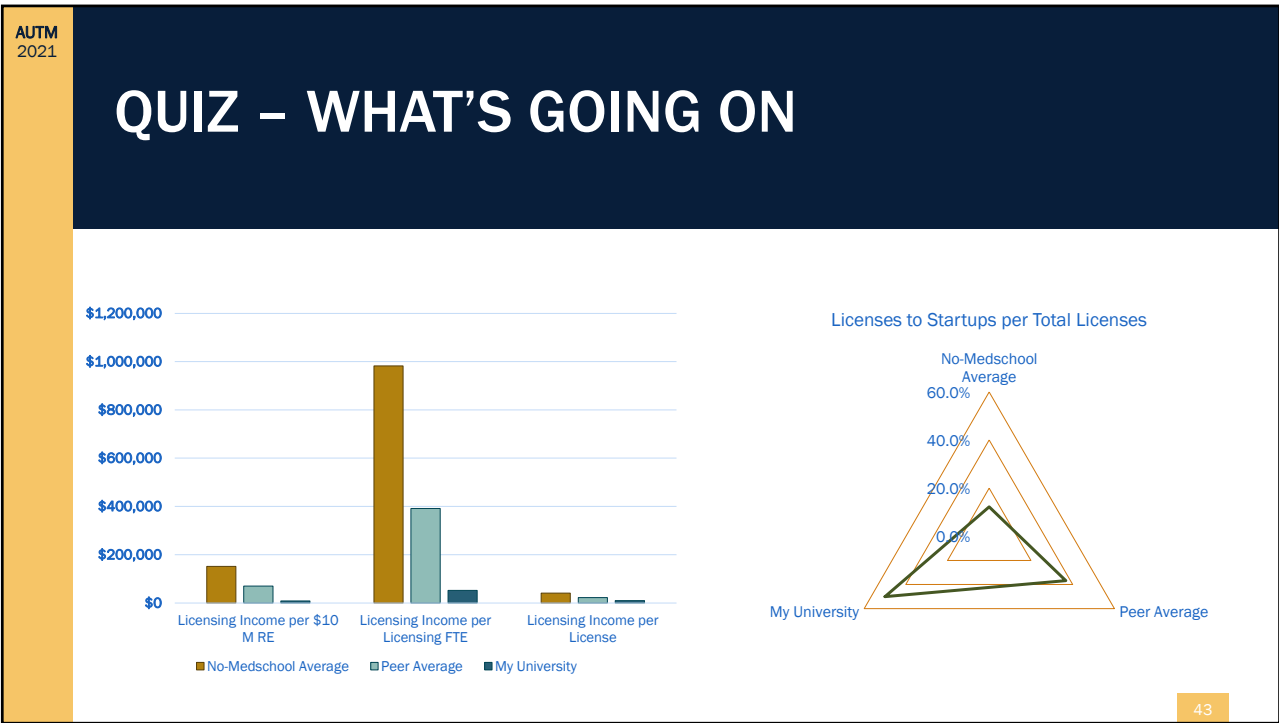
No-Medschool Average   Peer Average   My University

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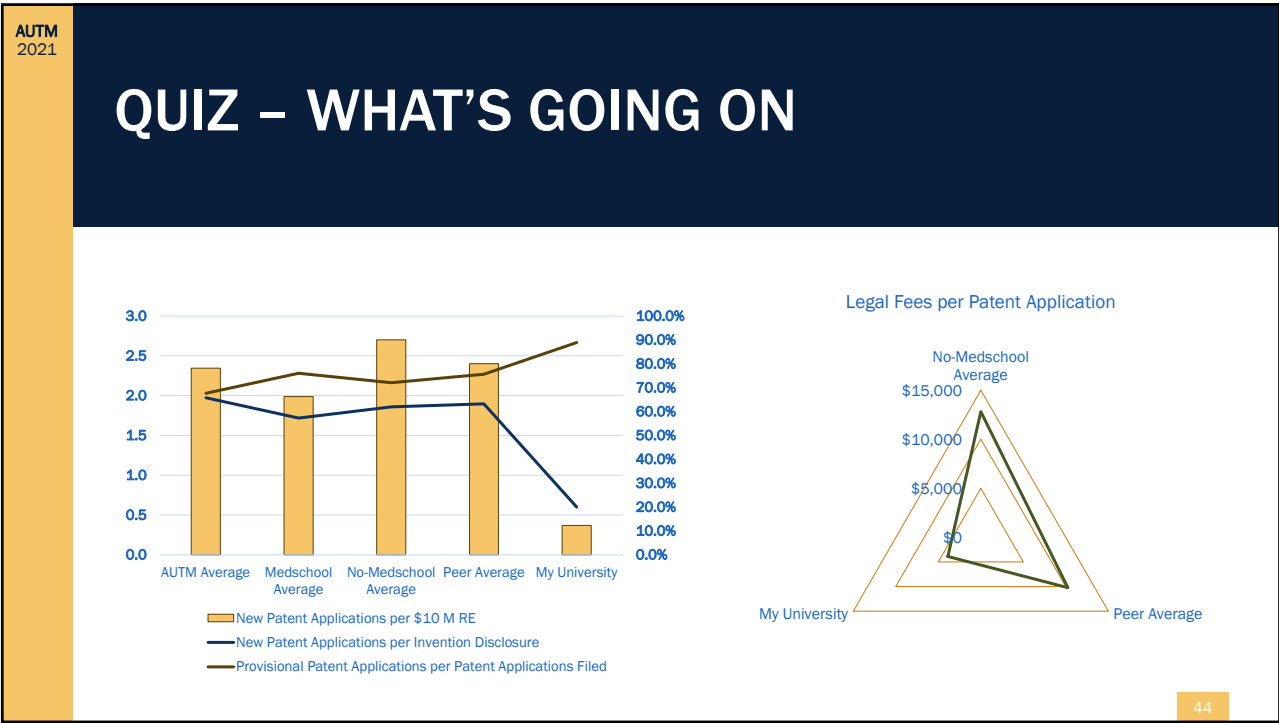
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Q&A

Thank you for joining us!

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