Academic Outreach & Screening Trends 2011

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Conditions Under Which This Market Report Is Sold

Executive Summary

- This market report summarizes the results of HTStec's global web-based benchmarking survey on academic outreach and screening carried out in June 2011.
- The study was initiated by HTStec as part of its ongoing tracking of emerging life science technologies and marketplaces. The main objectives were to compile a report that comprehensibly documents the current status, capabilities, resources, budgets and interests of academic screening centers.
- The report is intended as a reference/resource document that will facilitate identifying screening centers with certain capabilities or interests, and the direct comparison (benchmarking) of the screening centers surveyed. It is anticipated that the reports will be of interest to 3rd parties seeking comparative data and a concise summary of information on academic outreach and screening (e.g. Large Pharma looking for potential screening collaborators or other organizations and vendors that want to seek out centers).
- The survey looked at the following aspects of academic outreach and screening as practiced today (2011) by the screening centers surveyed: full name of the screening center, acronym, the organization/institution to which the screening center is affiliated and its geographic location; type of organization/institution the screening center is affiliated with; the center's focus; activities undertaken at the center; aspects of screening the center supports; details of the compound libraries used or available to the center; application areas or disease focus of the center; focus on certain therapeutic targets; target classes/assay types the center is most experienced in screening; screening capabilities in 2010 in terms of the number of therapeutic targets screened per year and the total number of wells screened per year; maximum throughput for certain assay types; typical duration of a screening project; microplate formats used for the majority of assays undertaken; assay readouts (detection modalities) supported in full HTS (screening) mode; assay readouts used in a primary screen over the previous 12 months; how centers rate the level of sophistication of their screening facilities; number of FTEs employed in center's operations and proportion pharma experienced; center's source of screening projects, contracts, revenues or funding to date; details of pharma collaborations; years operation, additional years of assured funding, and publically declared $ spent to date; 2011 capex and reagents & consumables budgets, plus their breakdown into components purchased; where the center is making the biggest investments for the future; progress centers have achieved to date; key difficulties faced by the center; how the center rates certain statements/goals/criteria; and each centers unique activities, capabilities or selling points.
- The questionnaire consisted of 31 multi-choice questions and 1 open-ended question.
- All of the persons that completed the survey held a senior job role or position at their screening center which was in descending order: 15 directors; 9 heads of screening center, unit, HTS lab or automated screening platform; 6 managers/managing directors; 2 assistant/associate directors; 2 CEOs or chiefs; 1 co-director; and 1 senior research associate.
- All survey results were pooled and expressed as an average of all screening centers (the summary pages).
- The individual responses of each screening center to all questions were also presented (the detail pages).
- 42 organizations participated in the survey. Of these 86% (36 out of 42) provided comprehensive input.
- Screening centers were geographically split: 69% North America; 29% Europe; 2% Asia (excluding Japan); and 2% Rest of World. The majority (64%) of organizations surveyed came from the USA.
- The majority of screening centers were affiliated to a University/Academic Core Facility.
- The screening focus of the majority of screening centers was a combination of both drug and probe discovery depending on need or funding.
- The main activity undertaken by the screening centers was internal drug discovery or probe screening with data confidential to organization/institute.
- The aspects of screening most supported by screening centers were assay development and HTS.
- The compound libraries that screening centers most use were third party libraries (e.g. from commercial vendors).
- Screening centers compound libraries were made up primarily of small molecules.
- The approximate current size of the compound library held by screening centers was a median of 150-200K compounds.
- The typical size of the screening set used by screening centers was a median of 75-100K compounds.

- The majority of screening centers had no application area/disease focus. The application area/disease focus most investigated by screening centers was cancer/oncology.
- Only 7% of screening centers specialize and focus on specific therapeutic targets.
- The target class/assay types that screening centers have most experience of screening were enzyme assays.
- The number of therapeutic targets screened per year by screening centers in 2010 was a median of 11-15 targets.
- The total number of wells screened per year by screening centers in 2010 was a median of 250-500K wells.
- The typical duration of a screening project undertaken by screening centers (i.e. including any assay development, confirmation of hit or probe activity, and follow-up assays) was a median of 6 months.
- Screening centers maximum throughput capabilities (median wells processed per week) were as follows: 100K wells/week for enzyme/biochemical assays; 50K wells/week for cell-based assays; 25K wells/week for HCS assays; and 5K wells/week for label-free assays.
- The most used microplate format at screening centers was 384-well (standard volume).
- The assay readout (detection modality) most supported in full HTS (screening) mode and most used for primary screening in the past 12 months at screening centers was fluorescence intensity.
- Screening centers level of sophistication (i.e. its implementation of state-of-the-art instrumentation, screening technologies and approaches) was rated most high with respect to automated liquid handling.
- The number of FTEs employed in screening center operations was a median of 9 FTE per center.
- The percentage of screening center FTEs with pharma experience was a median of 40% of FTE per center.
- The main source of screening center projects, contracts, revenues or funding was internally-derived.
- Screening centers had entered into a median of 2 pharma collaborations.
- The total value of the pharma collaborations screening centers have entered into to date was a median of $250K-$500K.
- The majority (68%) of all screening center pharma collaboration were translational (i.e. provide access to clinical resources or drug development etc.).
- The current status of the screening centers surveyed were a median of 6 years operation and 3 additional years of assured funding.
- The publicly declared total spending by screening centers to date was a median of $2.5M-$5M.
- Screening centers 2011 annual capex budget value for screening instrumentation and robotics was a median of $100K-$250K. The biggest proportion of this budget was allocated to detection instrumentation and liquid handling.
- The global market value for capex spending at screening centers was estimated to be $62M per year.
- Screening centers 2011 annual budget value for reagents and consumables was a median of $100K-$250K. The biggest proportion of this budget was allocated to plastics and standard toolbox reagents.
- The global market value for reagents and consumables spending at screening centers was estimated to be $61M per year.
- Screening centers ranked they will make their greatest investment for the future in personnel.
- The progress screening centers have made to date is summarised in the following median metrics per center: 20 publications accepted in peer-reviewed journals; 5 publications reporting unique molecules in high-impact journals; 22 chemical probes reported as a 'Probe Report'; 10 chemical probes identified; 15 lead series identified; 10 lead series undergoing further optimization; 2 lead series entered into preclinical development; and 0 candidates entered into phase 1 clinical trials.
- Screening centers rated getting and maintaining funding as the key difficulty (most major hindrance) they faced.
- Screenings centers were asked to rate themselves against certain statements, goals or criteria. Of these statements ‘willingness to work with for-profit organizations’ was rated highest.
- Screening centers provided a single sentence that concisely summarised any unique activities, capabilities or selling points.
- The full report has all the data submitted, including the individual responses from each screening center, the median and mean values, the breakdown of the response to each question, the market estimates for 2011 and 2014 and the % CAGR. The report includes 66 data tables and 50 summary figures.

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General Information on HTStec and HTStec's Trends Market Reports

- HTStec Limited an independent market research consultancy founded in September 2003 whose focus is on assisting clients delivering novel enabling platform technologies (liquid handling, laboratory automation, detection instrumentation and assay reagent technologies) to drug discovery. Over the past 8 years HTStec has published more than 50 market reports on drug discovery technologies and authored over 30 review articles in Drug Discovery World (at least one article per issue).
- HTStec's Trends reports owe their origins to the need by developers and vendors of new enabling technologies in drug discovery to get up-to-date relevant market metrics on which to base informed business decisions.
- Typically focused on a specific market niche or segment, in many cases overlooked or frequently misunderstood by broader market studies.
- Investigations are mainly initiated in response to a sponsor's specific requests.
- HTStec's extensive experience of the market, both as a Pharma End-User and working for a major Life Science Tool Provider ensures the industry relevance of the market research collected.
- Based entirely on web-based feedback from potential customers typically drawn mainly from Pharma and Biotechs, although increasingly University and Research Institute labs are also being researched.
- Produced extremely rapidly and typically published within 3 weeks of starting the collection phase.
- Reports are short, concise and focused on giving readers the basic data, analyzed in several different ways.
- Limited to reporting the main findings alone, without exhaustive discussion on the relevance of the results.
- Market estimates are mainly based on bottom-up calculations and usually avoid attempts to forecast widely beyond the next 2-3 years. Full details on the derivation of market estimates are given so readers can apply their own factors and easily make alternative estimates if they prefer or know better.
- Owing to the sensitivity of some of the data collected, all reference to the origin of participating companies is removed, data is pooled to get an industry average and the anonymity of all respondents fully preserved and guaranteed.
- Unlike alternatives HTStec's Market Surveys and Report are aimed at giving readers, information they want and can rely on, not information they don't need, cannot easily discern or is of dubious authenticity.
- HTStec aims to be the premier global provider of highly focused market research on enabling technologies in drug discovery.

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