ICE
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ICE INDUSTRY REPORTS:

AVERAGE IT
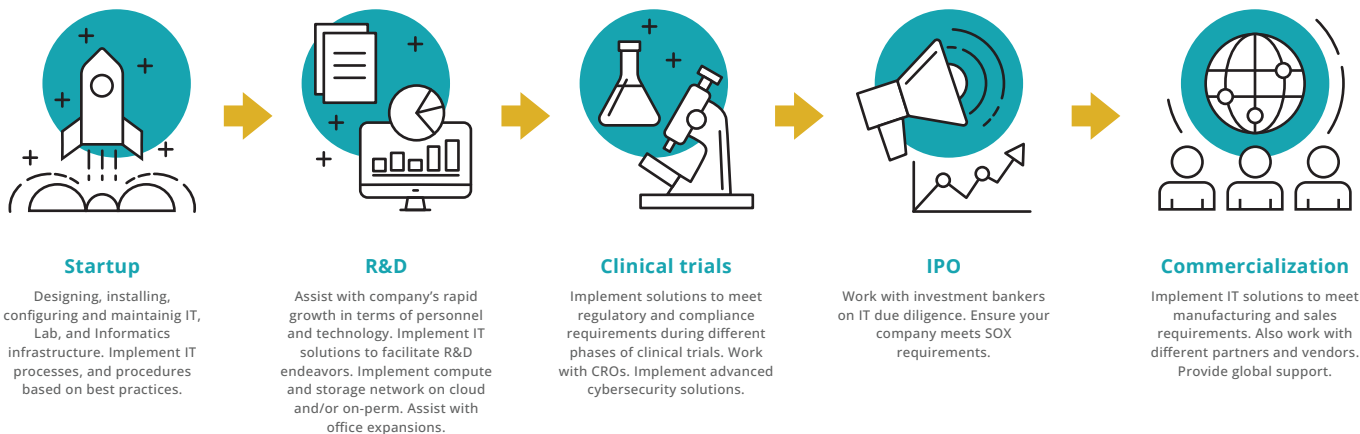
EXPENDITURE IN BIOTECH.

INVESTING IN YOUR
IT DEPARTMENT

AVERAGE EXPENDITURE ON IT IN BIOTECH

One of the biggest challenges Biotech startups faces on their way to commercialization is designing, maintaining, and scaling proper IT infrastructure. In an industry where IP, R&D, and data are often a company's most valuable assets, its IT Infrastructure is one place a Biotech company cannot afford to cut corners.

If you look at the five stages of growth a company goes through, you can see each stage has its own unique IT requirements.

Startup

Designing, installing, configuring and maintainig IT, Lab, and Informatics infrastructure. Implement IT processes, and procedures based on best practices.

R&D

Assist with company's rapid growth in terms of personnel and technology. Implement IT solutions to facilitate R&D endeavors. Implement compute and storage network on cloud and/or on-perm. Assist with office expansions.

Clinical trials

Implement solutions to meet regulatory and compliance requirements during different phases of clinical trials. Work with CROs. Implement advanced cybersecurity solutions.

IPO

Work with investment bankers on IT due diligence. Ensure your company meets SOX requirements.

Commercialization

Implement IT solutions to meet manufacturing and sales requirements. Also work with different partners and vendors. Provide global support.

As biotech companies make the journey from start-up to commercialization and their IT needs evolve there are 3 teams of IT professionals they develop internally or outsource:

#1 A Technical Team
→ Set up initial IT infrastructure and provide ongoing user support.

#2 A Cloud Team
→ Brought in to design, build, and maintain cloud infrastructures often needed to accommodate High-Performance Computing, Bioinformatic, and big data needs.

#3 Cybersecurity Team
→ Provide 24x7x365 security monitoring and response to hunt and eliminate internal and external threats.

This report outlines the engineers needed on each team, the role they play, and their median salaries.

THE IDEAL TECHNICAL IT TEAM

NETWORK ENGINEER:
Manage wide area and local area network and security, wireless network, and security on-prem and in the cloud.

SECURITY ENGINEER:
Responsible for overall IT infrastructure and services security. Manage and maintain SIEM and work with the SOC (Security Operation Center) team.

WINDOWS ENGINEER:
Identity management, DHCP, DNS, servers, backup, support cloud applications, virtualization, and storage. Azure server and services.

LINUX ENGINEER:
Manage and maintain Linux servers, storage, and AWS setup. and security. Work with Informatic group to design, implement, and manage compute environment and data management.

DATABASE ADMINISTRATOR:
Manage and maintain different databases.

NETWORK OPERATION CENTER SPECIALIST:
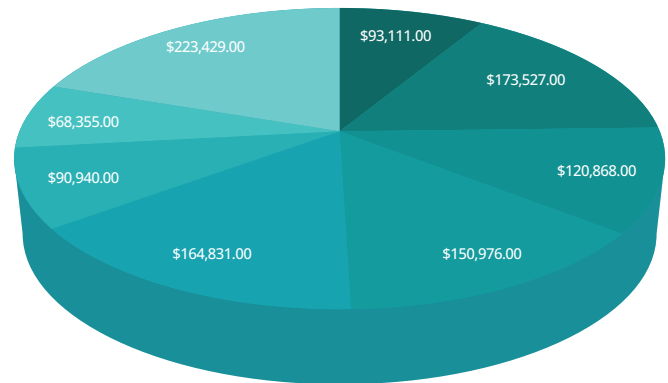IT engineers monitoring and acting 24x7x365.

USER SUPPORT SPECIALIST:
Assist users onsite and remote, assist with onboarding and offboarding.

HELP DESK SUPPORT SPECIALIST:
Remote user support 24x7x365.

TECHNICAL TEAM MEDIAN SALARIES

$223,429.00
$93,111.00
$173,527.00
$68,355.00
$120,868.00
$90,940.00
$164,831.00
$150,976.00

TOTAL: $1,086,037.00

- Network Engineer
- Security Engineer
- Windows Engineer
- Database Administrator
- Linux Engineer
- User support
- Help Desk Support
- IT Director

As biotech companies evolve, they often need R&D departments and Laboratories for Clinical Trials. These departments generate an immense amount of data and require high-performance computing power. The best solution to accommodate these needs is to have a cloud infrastructure.

THE IDEAL CLOUD TEAM

- **CLOUD ARCHITECT:**
  Manage the infrastructure of the cloud. These positions oversee the architecture, configuration, and deployment of applications in the cloud.

- **CLOUD DEVELOPER:**
  Build and maintain software features and functions, databases, and applications for cloud technologies.

- **CLOUD SECURITY ENGINEER:**
  Build and maintain features to provide security for cloud-based platforms and applications.

- **CLOUD ADMINISTRATOR:**
  Manage software and hardware associated with the use of cloud-based services.

- **CLOUD NETWORK ENGINEER:**
  Manage and support network infrastructures and connections between clients and service providers.

- **CLOUD AUTOMATION ENGINEER:**
  Are similar to cloud developers, but this position places an emphasis on automation, orchestration and integration.

CLOUD TEAM MEDIAN SALARIES

$139,152.00
$134,321.00
$218,067.00
$107,362.00
$133,000.00
$136,710.00
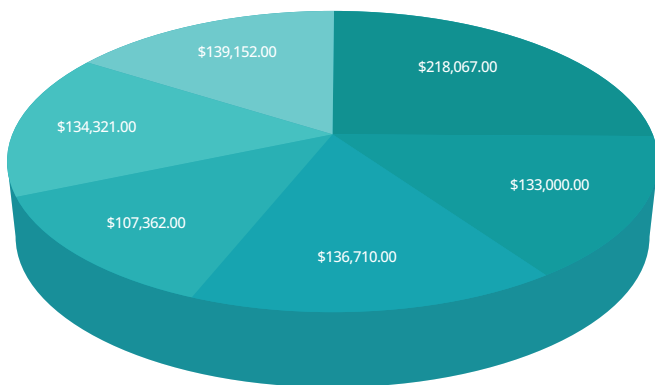
- Cloud Architect
- Cloud Software Developer
- Cloud Security Engineeer
- Cloud Administrator
- Cloud Network Engineer
- Cloud Automation Engineer

TOTAL: $868,612.00

In biotech, cybersecurity should always be a top priority. At the time of writing this, the US Attorney General just announced that biotech and drug companies just passed the financial industry as the most attacked vertical. Accenture estimates that Life Science organization will lose 657 billion dollars to direct cyber-attacks in the next four years.

To protect against these threats' companies, need much more than anti-virus software and a firewall. The only guaranteed way to keep your company safe is to develop a Security Operation.

THE IDEAL SECURITY TEAM

- **INFORMATION SECURITY ARCHITECT:**
  Lead IT analysts, security administrators, and security engineers to coordinate effective security protocols.

- **INFORMATION SECURITY ANALYST:**
  Plan and carry out security measures to protect an organization's computer networks and systems.

- **SECURITY AUDITOR:**
  Assess computer system safety and efficiency. They provide detailed reports, identify weaknesses, and offer suggestions for improvement.

- **PENETRATION TESTER:**
  Perform simulated cyberattacks on a company's computer systems and networks.

- **VULNERABILITY ASSESSOR:**
  Find weak spots in their network. They track and rank weaknesses, then use those findings to create security solutions.
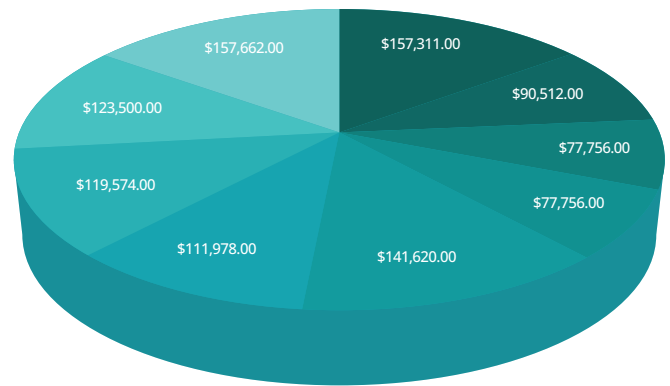
- **DIGITAL FORENSIC ANALYST:**
  Analyzes digital evidence and investigates computer security incidents to derive useful information in support of system/network vulnerability mitigation.

- **SIEM ENGINEER:**
  Are the eyes-on-glass that watch over your network. They look out for suspicious activity and use logs to investigate attacks.

TECHNICAL TEAM MEDIAN SALARIES

Pie chart values:
- $157,311.00
- $90,512.00
- $77,756.00
- $77,756.00
- $141,620.00
- $111,978.00
- $119,574.00
- $123,500.00
- $157,662.00

TOTAL: $1,057,669.00

- Information Security Architect
- Information Security Analyst
- Security Auditor
- Security Software Developer
- Penetration Tester
- Vulnerability Assesor
- Digital Forensic Analyst
- Siem Engineer
- Director Of Security Operations

Funding plays a crucial role in successfully making the journey from startup to commercialization. Life Science companies need to be cautious about where they allocate their capital. Finding areas of the business you can outsource will preserve your funding, so you have more to invest in your core business of scientific development.

All these engineers are needed to construct, secure, and maintain a proper IT infrastructure, but as you can see the cost to develop these teams internally comes with considerable costs, especially when you factor in taxes, benefits, and the time to recruit and train.

THE ALTERNATIVE: OUTSOURCING

MANAGED IT PROVIDER SERVICES

For a fraction of the cost, you can outsource part of or your entire IT department.
Since 1997 over 2,000 companies have selected us to manage their IT including companies like 10X Genomics, Mammoth, Twist, and Alector. 10X Genomics brought us on when they had just 30 employees and we helped them grow 6500% in 4 years by streamlining their IT operations so they could focus on further developing their genomics platform.

Another factor to consider is the unique elements that make up a biotech company's IT Infrastructure. ICE also has deep industry expertise and can help in areas most MSPs cannot, for example:

Configure and manage lab networks

Design and manage secure cloud infrastructures

Configure and manage ELNs

Collaborate with Informatic Groups

Configure and manage Linux systems

Assist with compliance

Assist with IPO due diligence

Configure and manage HPCs

Design and manage office expansions
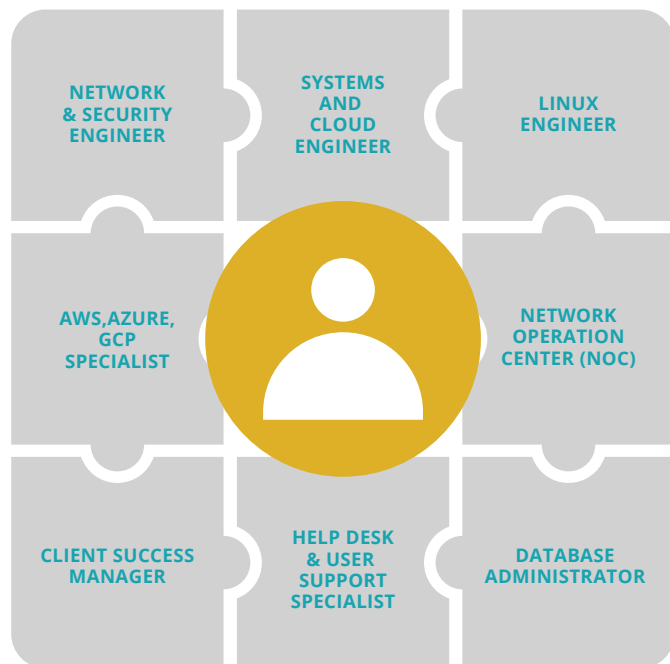
Configure and manage big data

Collaborate with CROs

Assist with LIMS

We can provide your company with a team of specialized engineers for a fraction of the cost that can be scaled up or down at a moment's notice.

NETWORK & SECURITY ENGINEER	SYSTEMS AND CLOUD ENGINEER	LINUX ENGINEER
AWS,AZURE, GCP SPECIALIST		NETWORK OPERATION CENTER (NOC)
CLIENT SUCCESS MANAGER	HELP DESK & USER SUPPORT SPECIALIST	DATABASE ADMINISTRATOR

This is your dedicated IT team, meaning you will be working with the same engineers all the time! We assign a primary and a secondary engineer to each account along with a customer success manager to ensure you always have a direct point of contact.

INTERNAL DEVELOPMENT VS. OUTSOURCING

What is the best solution for you?

By providing us with a quick head count of your company's size and a list of the services you are looking to outsource (e.g., User support, Cloud, Cybersecurity) we can provide you with a complete cost breakdown to help you make an informed decision on which path is best for you.

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CALL OR EMAIL US TODAY

TO RECEIVE A COMPLIMENTARY COST ANALYSIS

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