



CYBER SECURITY

TOM ILUBE, CEO



Crossword Cybersecurity PLC

- ▶ We are a new, research driven cyber security company, publicly quoted on GXG, the European SME stock exchange
- ▶ Cyber security is the body of technologies, processes and practices designed to protect networks, computers, programs and data from attack, damage or unauthorised access
- ▶ Crossword's model is to establish long term relationships with leading European University cyber security centres of expertise
- ▶ Our specialist cyber security development team build solutions based on intellectual property from universities and our commercial team take these solutions to market through partnerships and direct to end user companies



Leadership with commercial, cybersecurity IP transfer and public market expertise



Tom Ilube, CEO

Former Managing Director Consumer Markets, Callcredit, major UK credit reference agency. CEO/Founder Garlik, venture-backed ID protection company sold to Experian. Chief Information Officer, Egg plc, UK's first internet bank. Ex Goldman Sachs, PwC, Cap Gemini, London Stock Exchange

Chaired UK Government's Technology Strategy Board's Network Security Innovation panel. Member UN-agency ITU High Level Expert Group on Cybersecurity. World Economic Forum, Davos, Technology Pioneer 2008



Prof David Stupples

Director, Centre for Cybersecurity Sciences, City University, London. Undertook research at the Royal Signal and Radar Establishment at Malvern followed by surveillance and intelligence systems research for the UK Government. Developed highly secure communications for surveillance satellites for Hughes Aircraft Corporation in the US. Employed in signals intelligence by the Royal Air Force. Senior Partner with PA Consulting Group responsible for the company's consultancy work on the design, build and operation of secure communications systems for



Dr David Secher

Life Fellow at Gonville & Caius College, Cambridge. Expert in technology transfer and intellectual property.

Chairman, PraxisUnico (2009-10). Chief Executive, N8 research Partnership (2006-2008), Director of Research Services, University of Cambridge (2000-2005), Director of Drug Development, Cancer Research Campaign (now Cancer Research UK) (1991-2000). Co-founder and Chairman (2002-2008) of Praxis Courses - the international technology transfer training programme. Queen's Award for Enterprise Promotion (2007)



John Bottomley

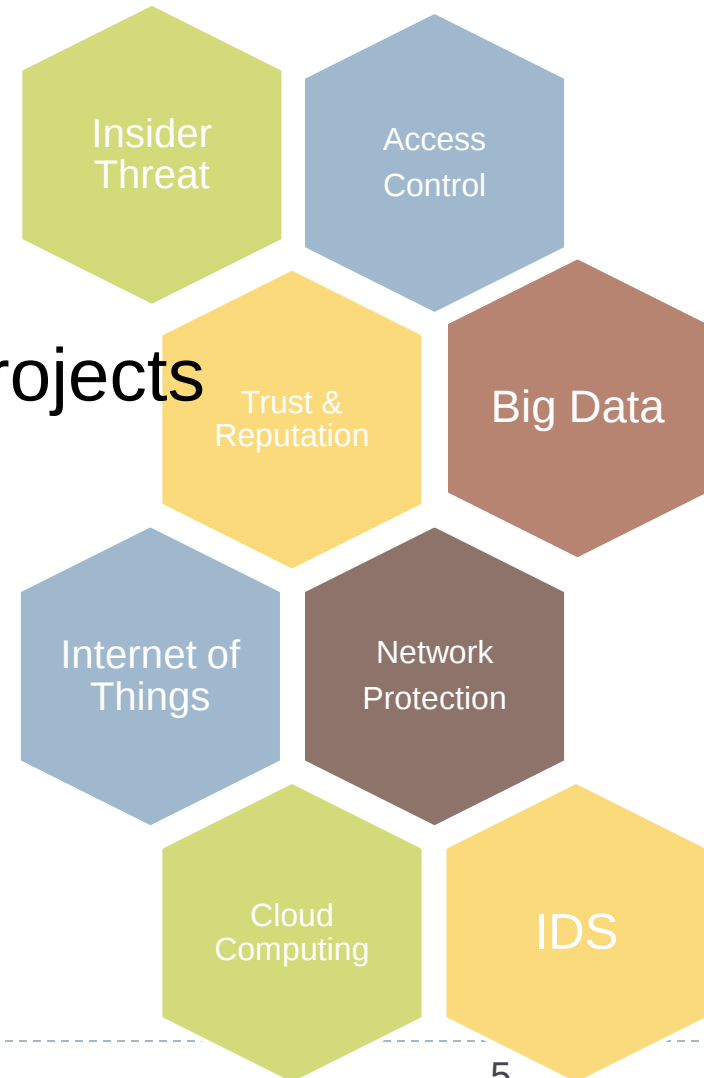
Recently retired as a partner of SGH Martineau Company Secretarial LLP. Has been company secretary to a number of AIM, fully listed public and private companies as well as holding a number of Non-Executive Directorships. John is a Fellow of the Institute of Chartered Secretaries and Administrators having qualified as a Chartered Secretary at PriceWaterhouseCoopers and has worked for a number of authorised institutions and property companies.

Cyber security challenge is growing

- ▶ Hackers accessed 128m eBay passwords, names, email addresses in “what is probably one of the biggest data breaches in the history of the internet...there is no longer any excuse for bosses who mishandle this area of their business. Companies must become far more serious about both preventing and tackling these risks” (FT, 23rd May 2014)
- ▶ “...[Heartbleed]...a major security flaw at the heart of the internet may have been exposing users' personal information and passwords to hackers for the past two years...one of the biggest security issues to have faced the internet to date.” (BBC News, 10th April 2014)
- ▶ Security experts estimate that there are about 50 million cyber attacks a year in the UK, a number which is growing rapidly and costing the UK economy up to £27bn a year. Cost to a large organisation of a security breach in UK is estimated to be in the range £450-850k. 93% of large organisations had a security breach last year
- ▶ Number of companies reporting cyber security concerns to US regulators has more than doubled in the past two years. Chrysler reported cyber attacks of “increasing...sophistication and frequency”.
- ▶ (FT 21st May, 2014)

A lot is being invested in UK cyber research

- 200+ UK Cyber security projects
- £150m grant money
- ~50 universities



Let's talk about Cyber Security and Credit Reporting Bureaus



Why target credit reporting agencies?

Because that's where the data is!

Willie “the Actor” Sutton (1901-1980)
was a prolific American bank robber

When asked why he robbed banks
he is reported to have said “*because
that’s where the money is*”

In the digital age the most valuable
commodity is personal data

So, why do cybercriminals target
credit reporting agencies?

“Because that’s where the data is”



Even the biggest players have been victims



- ▶ Equifax, Trans Union and Experian (March 2013) all reported intrusions into their systems following the revelation of personal data, including financial information of celebrities and prominent figures. A spokesman for Equifax, said that a hacker gained "fraudulent and unauthorized access" to at least four consumer credit reports at the credit reporting agency. Credit reports and sensitive data on First Lady Michelle Obama, former Secretary of State Hillary Clinton and FBI director Robert Mueller appeared on a website called Exposed.
- ▶ Experian (November 2014) experienced yet another security breach involving the compromise of a client's login credentials to their credit report database. The credentials were misused to obtain identity information on an unspecified number of consumers' Social Security numbers, dates of birth, and/or account numbers.



Two types of cybercriminal

The Fraudster and The Geek



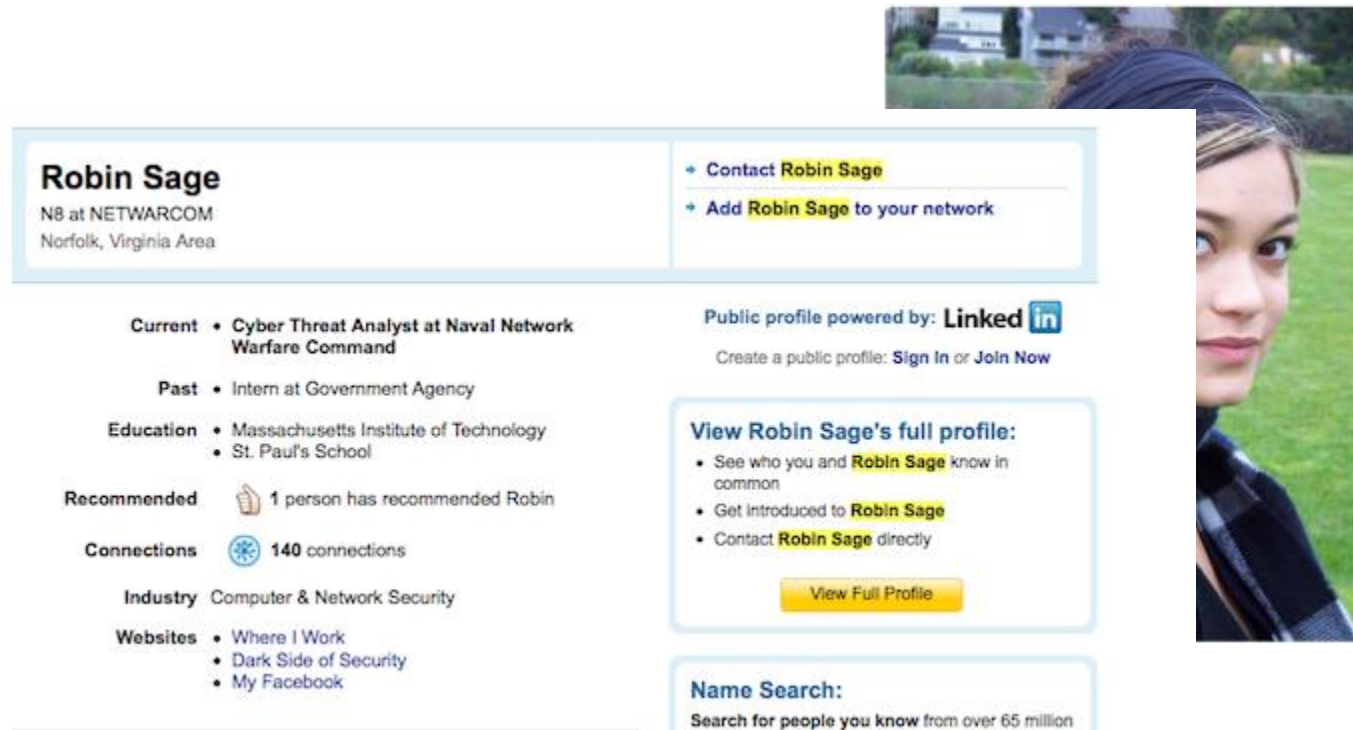
“We target people who are greedy and stupid”



“I love you, honey”



Do you really know who I am?



Robin Sage
N8 at NETWARCOM
Norfolk, Virginia Area

• **Contact Robin Sage**
• **Add Robin Sage to your network**

Public profile powered by: **LinkedIn**
Create a public profile: **Sign In** or **Join Now**

View Robin Sage's full profile:

- See who you and **Robin Sage** know in common
- Get introduced to **Robin Sage**
- Contact **Robin Sage** directly

View Full Profile

Name Search:
Search for people you know from over 65 million

Current

- Cyber Threat Analyst at Naval Network Warfare Command

Past

- Intern at Government Agency

Education

- Massachusetts Institute of Technology
- St. Paul's School

Recommended

1 person has recommended Robin

Connections

140 connections

Industry

Computer & Network Security

Websites

- Where I Work
- Dark Side of Security
- My Facebook

Fictional American cyber threat analyst, created by Thomas Ryan, Provide Security

The personal data you hold is a vital piece of the jigsaw



The hacker wants to place something nasty in your computer



There are markets for personal data



CERTIFIED COPY OF AN ENTRY

1. Full name	2. Date	3. Country of origin	4. Nationality	5. Date of entry	6. Reason for entry
7. Details of stay					
8. Details of departure					
9. Details of return					
10. Details of other entries					

CERTIFIED is the name given to the copy of the original document. It is made by the Home Office, under the seal of the Home Office.



Big Bad Botnets

Kehilos

Storm

Rustock

ESTHost

Conficker

BredoLab

Mariposa

Waledac

Coreflood

Zeus



Are you ready for a full scale DDoS attack?

DDOS
ATTACK

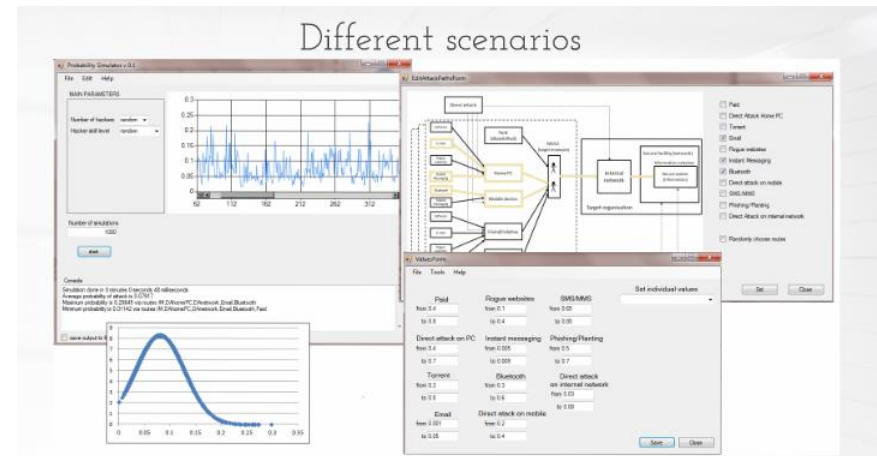


How do you tackle this growing challenge?

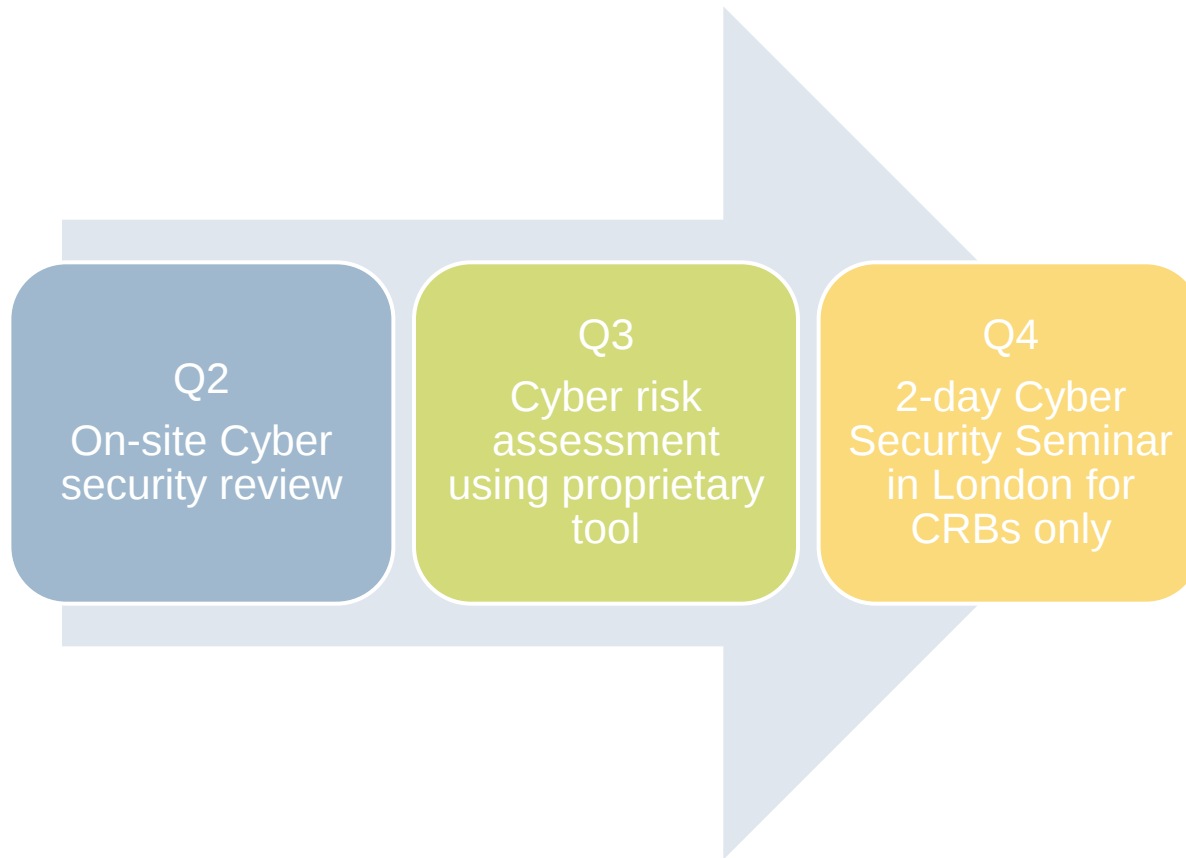
- ▶ Appoint and empower a CISO
 - ▶ Chief Information Security Officer
- ▶ Include Cyber security in your risk assessment exercise
- ▶ Understand level of risk
 - ▶ Prof Stupples City University risk models
- ▶ Co-operate on cyber security
- ▶ Credit Reporting agencies occupy a unique position



**CITY UNIVERSITY
LONDON**



Crossword is running a cyber security programme in 2015 specifically for consumer credit reporting bureaus



For further information please contact david.ross@crosswordcybersecurity.com



Thank You

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