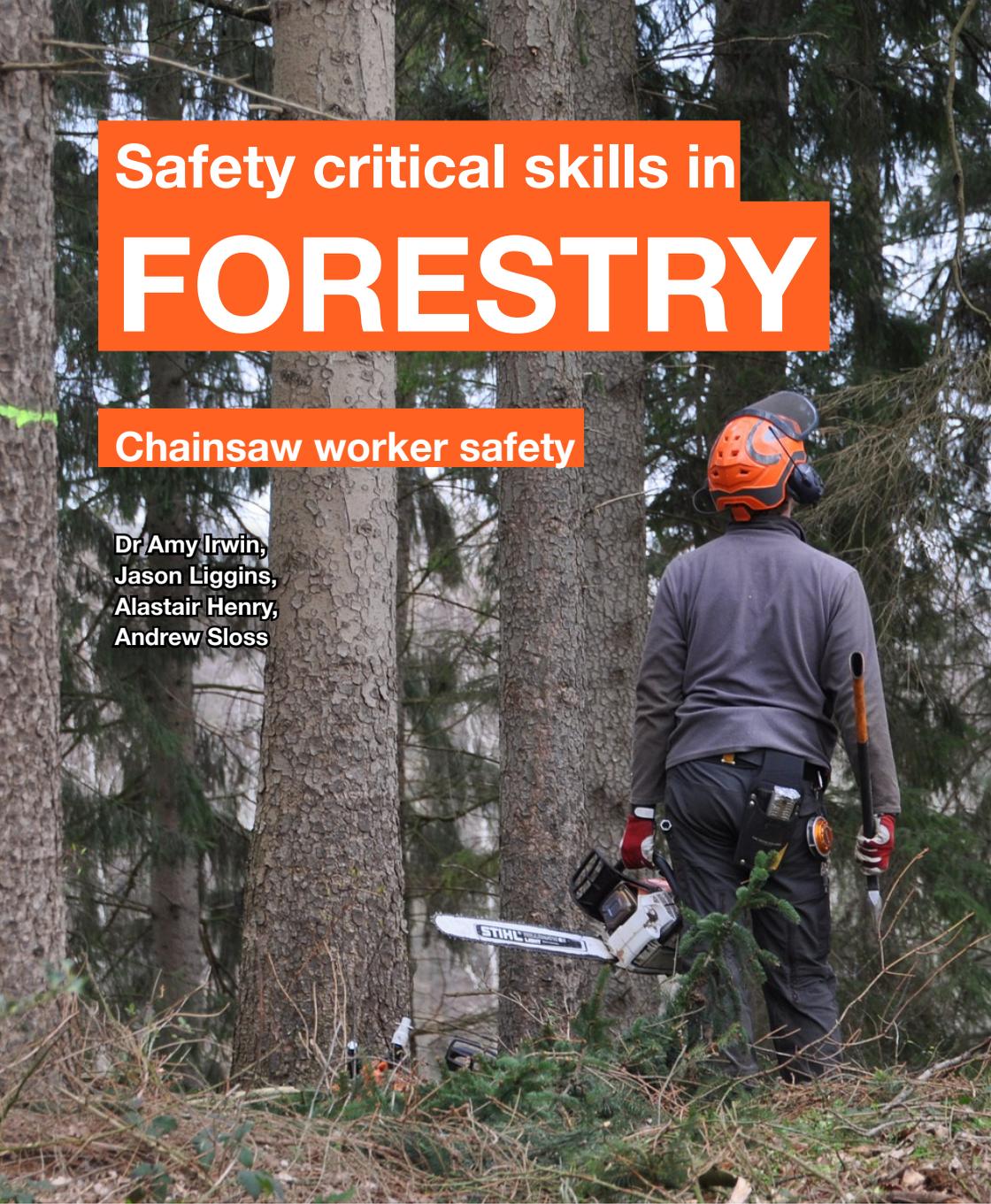


Safety critical skills in **FORESTRY**

Chainsaw worker safety

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Applied
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NON-TECHNICAL SKILLS IN AGRICULTURE



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WHO

We are a team of applied psychologists and human factors researchers with a specific interest in investigating safety critical skills used in high-risk industries. Over the past 5 years we have developed a behavioural approach to safety in Farming, conducting research WITH farmers FOR farmers. We use that research to develop practical tools to support safety, including a tractor safety checklist, tractor safety app and farmer resource management leaflets and guides.

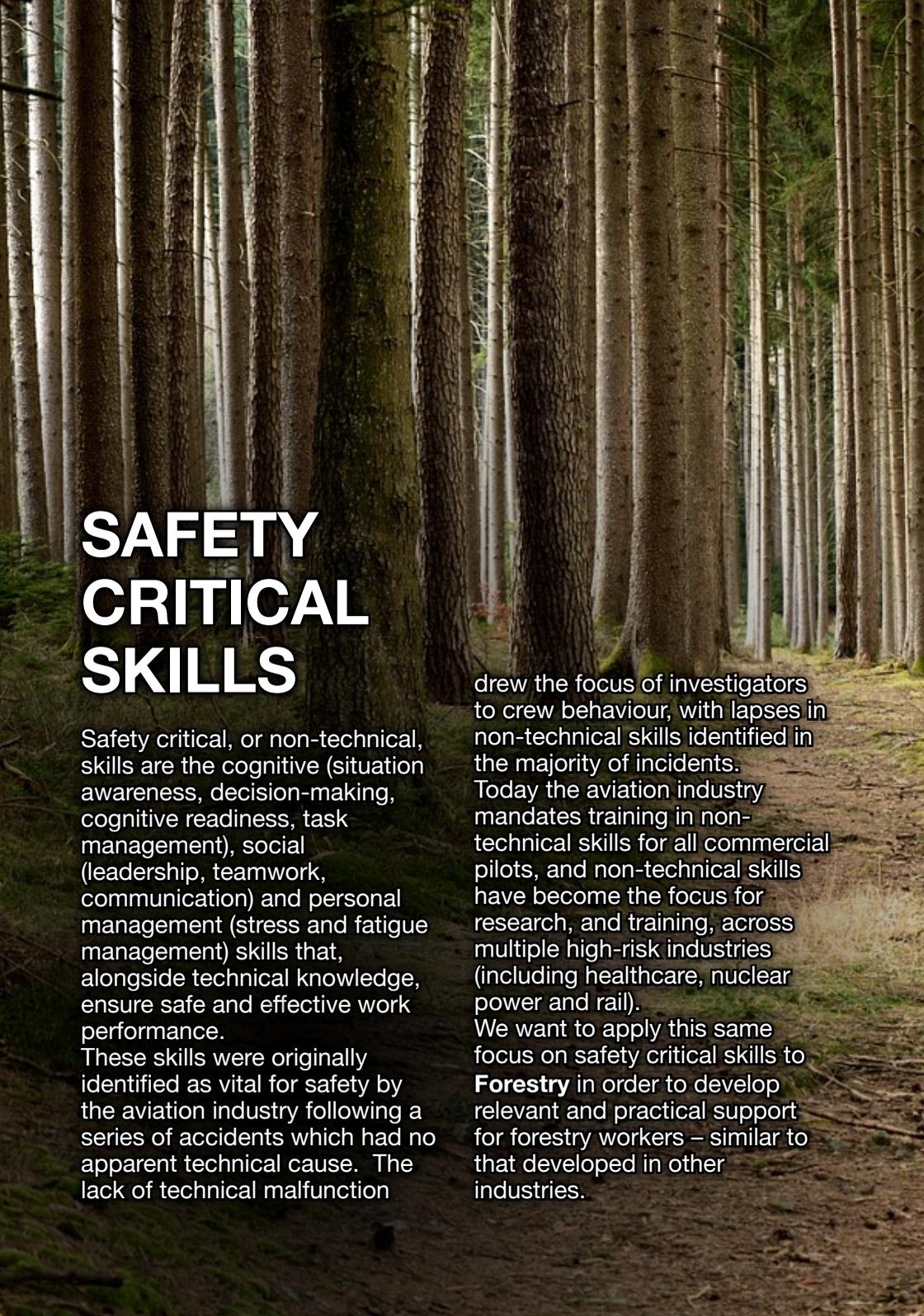
WHAT

We would like to expand our work with farmers to forestry by collaborating with the industry to identify key safety concerns and develop practical interventions to enhance the safety of forestry workers.

WHY

Forestry is a high-risk industry, with the HSE reporting that Farming, Forestry and Fishing are the most dangerous occupations in the UK. Forestry and Land Scotland emphasise this, reporting that forestry workers are injured and killed every year. Chainsaw workers have a very high-risk role which is physically and technically demanding. They have vast amounts of information and hazards to process that will allow them to fell a tree safely, including working at height, rough terrain, falling trees, contact with high power machinery, and kick-back from the chainsaw.





SAFETY CRITICAL SKILLS

Safety critical, or non-technical, skills are the cognitive (situation awareness, decision-making, cognitive readiness, task management), social (leadership, teamwork, communication) and personal management (stress and fatigue management) skills that, alongside technical knowledge, ensure safe and effective work performance. These skills were originally identified as vital for safety by the aviation industry following a series of accidents which had no apparent technical cause. The lack of technical malfunction

drew the focus of investigators to crew behaviour, with lapses in non-technical skills identified in the majority of incidents. Today the aviation industry mandates training in non-technical skills for all commercial pilots, and non-technical skills have become the focus for research, and training, across multiple high-risk industries (including healthcare, nuclear power and rail). We want to apply this same focus on safety critical skills to **Forestry** in order to develop relevant and practical support for forestry workers – similar to that developed in other industries.

Safety critical skills overview

– research is needed to identify which skills are most important for forestry workers.

Cognitive skills



Situation awareness:

Perception of your surroundings, comprehension of what cues and signals in the environment mean, anticipation of potential problems.

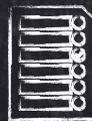


Decision-making: Conducting a risk assessment, identifying potential actions and selecting the best, safest, course of action for a given scenario.



Cognitive readiness:

Mental preparation, resilience under adverse conditions, adaptability.



Task management:

Ensuring procedural excellence, managing time pressure while maintaining safety.

Social skills



Leadership: Organising and monitoring the work of others, ensuring team are trained and prepared to deal with work activities.



Teamwork: Coordination of task activities, sharing workload, supporting team members who are experiencing difficulty.



Communication: Sharing information effectively with entire team, ensuring everyone knows the plan of action, updating team if / when situation changes.

Personal management



Stress management: Awareness of stress indicators, monitoring self and others for signs of stress, taking action to reduce stress where it is identified.



Fatigue: Awareness of signs of fatigue, knowledge of impact of fatigue on work, taking action to reduce fatigue.



PROJECT AIM



COLLABORATE

with Forestry and Land Scotland to conduct research focused on chainsaw worker safety.



EXPLORE

the safety critical skills that are most relevant to chainsaw workers.



IDENTIFY

the factors that might influence these skills and potentially lead to lapses.



DEVELOP

practical tools and interventions to support chainsaw worker safety and wellbeing.

FURTHER INFORMATION

NTSAg website

research.abdn.ac.uk/nts-farming

APHF website

abdn.ac.uk/aphf

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