**Supplementary Material**

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| **Database** | **Concept** | **Search string** | **Articles obtained** |
| MEDLINE | 1. Musculoskeletal conditions | Injur\* OR impairment\* OR disabilit\* OR pain OR ailment\* OR musculoskeletal OR MSK OR backache | 384 |
| 2. Information and communication  | "Sensor\*" OR "artificial intelligence" OR "tracking" OR "software" OR "application\*" OR "camera\*" OR "machine learning" OR simulation\* OR  "information technolog\*" OR "communication technolog\*" OR "computer monitoring" OR "deep learning" OR robotic\* OR "automation" OR app\* OR VR OR "virtual realit\*" |
| 3. Return to work evaluation | "Work evaluation" OR "occupational assessment" OR "capacity evaluation" OR "workplace fitness" OR "functional abilities evaluation" OR "physical capacity assessment" OR "physical capacity evaluation" OR "work ability” OR "return\* to\* work" OR "workplace re-entry" OR "work readiness" OR (((functional abilit\* OR functional capacity or physical capacity) adj3 (evaluat\* or assess\*)) OR "performance evaluation" OR "functional assessment") OR (work\* OR job OR jobs OR employment\* OR employee) |
| 1 AND 2 AND 3 |  |
| EMBASE | 1. Musculoskeletal conditions | injur\* OR impairment\* OR disabilit\* OR pain OR ailment\* OR musculoskeletal OR MSK OR "back pain" | 619 |
| 2. Information and communication  | sensor\* OR "artificial intelligence" OR tracking OR software OR application\* OR camera\* OR "machine learning" OR simulation\* OR  "information technolog\*" OR "communication technolog\*" OR "computer monitoring" OR "deep learning" OR robotic\* OR automation OR “virtual realit\*" |
| 3. Return to work evaluation | "work evaluation" OR "occupational assessment" OR "capacity evaluation" OR "workplace fitness" OR "functional abilities evaluation" OR "physical capacity assessment" OR "physical capacity evaluation" OR "return\*to\*work" OR “workplace re-entry" OR work readiness” OR (((functional abilit\* or functional capacity or physical capacity) adj3 (evaluat\* or assess\*)) or "performance evaluation" or "functional assessment") or (work\* or job or jobs or employment\* or employee) |
| 1 AND 2 AND 3 |  |
| CINAHL | 1. Musculoskeletal conditions | Injur\* OR impairment\* OR disabilit\* OR pain OR ailment\* OR musculoskeletal OR MSK OR "back pain" OR backpain | 2250 |
| 2. Information and communication  | "Sensor\*" OR "artificial intelligence" OR "AI" OR "tracking" OR "software" OR "application\*" OR "camera\*" OR "machine learning" OR simulation\* OR  "information technolog\*" OR "communication technolog\*" OR "ICT" OR "computer monitor\*" OR "deep learn\*" OR robot\* OR "automat\*" OR smart OR app\* OR VR OR "virtual realit\*" |
| 3. Return to work evaluation | "Work eval\*" OR "occupation\* assess\*" OR "occupation\* eval\*" OR "capacity eval\*" OR "work\* fit\*" OR "functional abilit\*" OR "capacity assess\*" OR "capacity eval\*" OR "return to work" OR "perform\* eval\*" OR "function\* assess\*" OR "function\* eval\*" OR "job re-entry" OR "job entry" OR "work\* re-entry" OR “return to work” OR “resuming work” OR "work capacit\*" OR "work\* read\*" |
| 1 AND 2 AND 3 |  |
| SCOPUS | 1. Musculoskeletal conditions | Injur\* OR impair\* OR disab\* OR pain\* OR musculoskeletal OR MSK OR back ache\* OR backache\*  | 1873 |
| 2. Information and communication | "Sensor\*" OR "artificial intelligence" OR "AI" OR "tracking" OR "software" OR "application\*" OR "camera\*" OR "machine learning" OR simulation\* OR  "information technolog\*" OR "communication technolog\*" OR "ICT" OR "computer monitor\*" OR "deep learn\*" OR robot\* OR "automat\*" OR smart OR app\* OR VR OR "virtual realit\*" |
| 3. Return to work evaluation | "Work eval\*" OR "occupation\* assess\*" OR "occupation\* eval\*" OR "capacity eval\*" OR "work\* fit\*" OR "functional abilit\*" OR "capacity assess\*" OR "capacity eval\*" OR "return to work" OR "perform\* eval\*" OR "function\* assess\*" OR "function\* eval\*" OR "job re-entry" OR "job entry" OR "work\* re-entry" OR, OR "work capacit\*" OR "work\* read\*" |
| 1 AND 2 AND 3 |  |
| Web of Science (Core Collection) | 1. Musculoskeletal conditions | Injur\* OR impairment\* OR disabilit\* OR pain OR ailment\* OR musculoskeletal OR MSK OR "back pain" OR backpain | 408 |
| 2. Information and communication | "Sensor\*" OR "artificial intelligence" OR AI OR tracking OR software OR application\* OR camera OR "machine learning" OR simulation\* OR  "information technolog\*" OR "communication technolog\*" OR "computer monitor\*" OR "deep learning" OR robotic\* OR automation OR smart OR automatic |
| 3. Return to work evaluation | "work\* evaluation" OR "occupation\* assessment" OR "capacity evaluation" OR "workplace fitness" OR "return\*to\*work" OR "job re-entry" OR "work engagement" OR  "work ability" OR "work\* re-entry" OR (resum\* NEAR/1 work) OR "work capacity" OR "work readiness" OR (( (("functional abilit\*" or "functional capacity" or "physical capacity") NEAR/3 (evaluat\* or assess\*)) OR "performance evaluation"  OR "functional assessment") AND (work\* OR job OR jobs OR employment\* OR employee\*)) |
| 1 AND 2 AND 3 |  |
| Total number of citations  |  |  | 5534 |
| Number of non-duplicate citations  |  |  | 4155 |
| Number of articles excluded |  |  | 4146 |
| Number of articles included in review  |  |  | 9 |

Search strategy used per database; search conducted on December 22, 2022.