

TEAM	NUMBER	Collective Concerns and Limitations	Ways to Overcome
PINK 2	1	National Guard has no subject matter experts as far as Psyop Civil Affairs, how do we better allocate knowledge of synthetic internet across echelons?	IO being at a higher command, standardized advantage accessible across IRCs. joint staff oversight that ensures funding is inclusive of IRCs.
PINK 2	2	Guard is full of IO people who are not integrated into synthetic internet exercises, how do we better integrate?	Deliberately place LNOs at different commands, integration of FA30s and MOS skilled guard or reserve personnel into appropriate DOD IO exercises
PINK 2	3	How do we recreate EW into synthetic internet exercises?	
PINK 2	4	How do we synchroize cell phones, laptops, and other internet capabilities into synthetic internet exercises?	Civilian sector that accounts for IRCs to respond, industry creating a software that is compatible or hardware that recreates (classification will impact)
PINK 2	5	Time required to build the exercises is lengthy especially when new platforms come into play.	Process solution and employing people who build processes out that help us eliminate need to recreate and reprogram. Demanding interoperability. Exercise management. Dedicated billet for exercise build out.
PINK 2	6	Universal programming across hardware or already established so that it doesnt need to be recreated.	interoperability, in contracts to buy thing implement things that integrate. clearly define requirements for information environment related simulations.
PINK 2	7	Format to have exercise saved into a system and be able to download exercise and upload into new system.	interoperability and knowledge management.
PINK 2	8	How do we better intergrate different platforms such as pulse, ion, or site into one platform?	
PINK 2	9	How do we get funding allocated for real world operations as well as for training?	fundamental resources are allocated to priorities, demonstrate need
PINK 2	10	How do we create a synthetic internet outside of American bias?	scenario teams? web crawlers? requesting contractor support and being clear on requirements.
PINK 2	11	How do we intergrate this with partner force trainings?	invite them to attend our trainings, early integration.
PINK 2	12	How do we gain understanding of partner force capabilities within IO environment?	
PINK 2	13	Problem with data being acquired from multiple sources and re purchasing duplicate products.	
PINK 2	14	How do we integrate cross functional teams into the synthetic internet environment?	
PINK 2	15	Is this something where we need to rebuild the synthetic internet environment or should it be reused?	
PINK 2	16	How do we create opsec measures that allow synthetic internet environment to work across all levels?	
PINK 2	17	How do we create compatible solutions that are interoperable	clearly define requirements and stipulations, IWC and JMWC have complementary capabilities that combine and expand webop capabilities and adequate resources of both entities are essential.
PINK 2	18	We need to create a standard or TTP	
PINK 2	19	Manpower is a problem when stretched across managing personas and responding to EW	
PINK 2	20	Is this something where we need to rebuild the synthetic internet environment or should it be reused?	reuse so that gaps can be found and updated to stay relevant
PINK 2	21	Sanitizing data for AI	
PINK 2	22	Industry professionals with experience	
PINK 2	23	Lack of digital capabilities across IRCs and how to integrate them	
PINK 2	24	Lack of effective communication across battalions with lessons learned	Battalions need to reinvent TIS and knowledge management. TIS under staffed. Roles need to be redefined.
PINK 2	25	Lack of understanding of DoS IO capabilities and what they have	Reaching out and start cross planning, integrating into academic week
PINK 2	26	Commercial sector industry professionals in the IO environment and how they combat misinformation	
PURPLE 1	27	Lack of doctrinal requirements to substantiate forcing functions on using synthetic internet training	In the initial draft of the new FM 3-53, already being sourced and staff to FFRDC
PURPLE 1	28	Lack of bandwidth that enhances an enterprise approach	USASOC staff should provide updates to emerging programs and obtain feedback that substantiates the funding and requirements for an infrastrural improvement. Can also be a local resrouce management solution purchased at the local level. Create a Common Cache for multiple users across individual systems
PURPLE 1	29	Issues with scaling of data that enables the user to obtain crowd sourcing data or products required to impact the IE	
PURPLE 1	30	Major gap between training programs not linked to operational requierements	Use real world scenarios linked to operational mapping though SITE linked to operational programs through defined operational requirements merged with training MSELS. This forces a cycle that updates scenarios to match real world updates in near real time data
PURPLE 1	31	Scripting SIT to provide realistic training that dynamically changes the IE and enhance users ability to respond to immediate requierements	This is a by product of the previous outcome merged wif DOTMLPF updates to support resrouce application to meet immediate demands
PURPLE 1	32	Lack of CDR buy in to mission requirement	
PURPLE 1	33	inadequate CONOPs that force functions to impact objectives	
PURPLE 1	34	IO cant pull intel we need to stress the intel enterprise to link the driving function	Synch training objectives with with MI units.
PURPLE 1	35	Lack of demand signal for prioritized resrouces management relevant to information environment	

Notes

PURPLE 1	36	Lack of IO Lexicon. Define the baseline	Outsource the publication to FFRD to develop industry terminology and enables merged problem prioritization
PURPLE 1	37	Lack of Assessment programs to demonstrate effectiveness on IO/IW OALs on GCC/TSOC objectives	
PURPLE 1	38	Ability to export training data in to a COP that links to real world operations	This should be a local unit level function. Provide awareness of CALL, KM for JRTC Trend Reports, etc. 4th POG group initiative to define best practices for continuity through created engagement from a BN representative that is the SME for their AOI
PURPLE 1	39	Why cant we "Robin Sage" a IW SITE in an Info IN no real info out concept	Network with oragnized local government administrations, law enforcement, etc to establish physical engagement with local specific people to enable digital engagement. Source an RFI that converts real web to a dark web scenario using unattributed personas with shared abjectives of local entities. This would aid in understanding near peer adversarial focus with partners
PURPLE 1	40	Linkage with contractors who think near peer from a global scale to build an adpatable AI platform to define training objectives	Network with oragnized local government administrations, law enforcement, etc to establish physical engagement with local specific people to enable digital engagement. Source an RFI that converts real web to a dark web scenario using unattributed personas with shared abjectives of local entities. This would aid in understanding near peer adversarial focus with partners
PURPLE 1	41	Utilize academia to define problem sets that build on the IE not just the miliary structure	Outsource the publication to FFRD to develop industry terminology and enables merged problem prioritization
GREEN 1	42	Lack of Maneuver Centric Training	
GREEN 1	43	Lack of Interest in Synthetic Internet outside PSYOP/S-2/PAO	Policy Change, needs to be in OPORD, training objective, integration into everyday activity (normalize concept of sythetic internet) NEGATIVE/POSITIVE FEEDBACK
GREEN 1	44	Little to no transition from actions on ground to internet events	Policy Change, needs to be in OPORD, training objective, integration into everyday activity (normalize concept of sythetic internet) NEGATIVE/POSITIVE FEEDBACK
GREEN 1	45	ION system down often	Investment in more reliable contractors/systems (Requirements-needs to work in austere environments) train in actual environment we will work in
GREEN 1	46	Not scripting out early enough for PSYOP	events? Build out what the CTC does already, outsource a company to create highly detailed scenarios)
GREEN 1	47	Not using the software we train with in a real environment (check the box)	Use it. Authorities and permissions. Use them in a limited capacity in a real world enviornment. Maybe have a Robin Sage like event for PSYOP. Start with a benign event. Cats v. dogs or red v. blue flowers. Risk Mitigation
GREEN 1	48	Lack of Crisis event training-Scenarios too limited	Outsourcing. Must establish operations first
GREEN 1	49	No IO integration in training events	
GREEN 1	50	Current training (i.e. ION) not effective but used because it is cheap. More advanced training, while expensive, is worth it in the long run	
GREEN 1	51	More SOF integration and interest from maneuver commanders	
GREEN 1	52	Maneuver commanders show no interest/dont use ION and other IO tools	Each BCT has a PSYOP/CA Planner, they must integrate our capability, have the CDR's use our system and understand them. Build the scenario and force the CDR to use the system.
GREEN 1	53	Lack of Gamification of learning from PSYOP (Steam games like Democracy)	
GREEN 1	54	Tools used are freeware or liscenced that we dont have permission to use on a closed net	
GREEN 1	55	Synthetic internet used is limited by infrastructure and our own security protocols	
GREEN 1	56	Synthetic internet offers interaction but doesnt provide feedback on behavior change	Setting parameters within the code, when the circumstances change (Choose your own adventure style technology)
GREEN 1	57	Maneuver commanders need to make IO an objective (Culture change)	
GREEN 1	58	Storage requirements not efficient	
GREEN 1	59	Lack communications between COCOM's (i.e. unable to print a leaflet in a different language w/o a long drawn out process)	
BLACK 2	60	Training on the systems	training within the contract of the vendor
BLACK 2	61	Training on the use of the systems	common platform and access to equipment instuctional videos, access to traing, physical/browser
BLACK 2	62	Capabilities	funding to increase capabilities of a system streamlined contracting
BLACK 2	63	Intigration into all IRC MILDEC, IO, PSYOP	Dedicated unit/ opfor or site to intigrate multiple platforms, or one platform
BLACK 2	64	Real world scenario	platform to agrigate real data and adjustable to a simulated scenero build and learn and adapt
BLACK 2	65	Conectivity limited Hard whare soft ware compatability	Dedicated unit/ opfor or site to intigrate multiple platforms, or one platform
BLACK 2	66	Who manages SIT	Continuity person/people to manage the transition of people in military assignments
BLACK 2	67	Western viewpoint	AI audience of foriegn veiwpoint adaptable system to changing through world environment High/ low tech
BLACK 2	68	Foriegn Perspective	coalition scale environment/system to work with international partners, international platform
BLACK 2	69	Joint training??? all services HOW???	Dedicated unit/ opfor or site to intigrate multiple platforms, or one platform
BLACK 2	70	Standard guidance	Continuity person/people to manage the transition of people in military assignments
BLACK 2	71	Process for single point Joint Training	
BLACK 2	72	INTIGRATOR services, DOS	Continuity person/people to manage the transition of people in military assignments

BLACK 2	73	Red Tape slowing intigration of new systems Policy	
BLACK 2	74	FUNDING	
BLACK 2	75	Limited DOD Platforms	Platform using digital mapping pulling data from partner forces, ground forces drone, upload uploadable to a platform to build a digital environment of a location to run simulations for teams and leaders to play out options, Run by Continuity person/people to manage the transition of people in military assignments. Coalition scale environment/system to work with international partners, international platform
BLACK 2	76	Authorities/Permitons intigration	
BLACK 2	77	Disconnection between IRCs	
BLACK 2	78	Manpower	
BLACK 2	79	JOINT IO training location Full spectrum	Dedicated unit/ opfor or site to intigrate multiple platforms, or one platform
BLACK 2	80	IO intigration in full Operations concequencies	
BLACK 2	81	eliminate the arguments on not using IO (strengthen IO capes)	
BLACK 2	82	Robust teams	
BLACK 2	83	Individual person intigreaton	
BLACK 2	84	Resourses	
BLACK 2	85	manpower for development personas and scenario development	
BLACK 2	86	Persona managment to eleminate bias	
BLACK 2	87	Technology cost AI personas and maintainence	
BLACK 2	88	Dedicated funding streams for cyber	
BLACK 2	89	Joint common guidance and effort common goal for cyber and IO	
BLACK 2	90	1 Program ION slowed by Gov control, slows updating cyber systems long red tape processes	
BLACK 2	91	Fragmented systems used by individual IRC Cyber uses 1, IO uses another no single point to manage	
BLACK 2	92	Operating systems on a govern network policies	
BLACK 2	93	Bandwith limitations in joint operations hardware software	
BLACK 2	94	Current system intigration costs limitations	
BLACK 2	95	Incorporation of analitic tools into envir, and the cost	
BLACK 1	96	time to build data bases	Build ONCE and REUSE OFTEN Tailor the environment to replicate real world based on resources
BLACK 1	97	Interoperability and integration	Digital Twin Technology for Data reuse, interoperability integration and quick replication of data at the point of need
BLACK 1	98	make the data relevent to the mission to make exercise realistic	Crawl real world events and webistes to drive operations Tie in Intel and Ops into the planning
BLACK 1	99	Bandwidth Constraints at the tactical edge	AWS GovCloud, Starlink, 5G tactical edge, increase Network Enterprise Center infrastructure
BLACK 1	100	Cant build data fast enough to make custom content	Digital Twin/Digital Twin the Environment to include Personnas Devices Networks within a very short period of time and bring in to the environment near real time
BLACK 1	101	Understand the STE is IOC in 2035	We have to partner with Industry for best solutions, create a collaboration IO community to crowd source requirements across the SOCOM
BLACK 1	102	Title and policy constraints	Work with Lawyers and create local govenance to enable digital asset management
BLACK 1	103	Government purpose rights	Easier and intuitive front end system to create IO environment
BLACK 1	104	Scaling data and information environment	Move to Cloud computing environment
BLACK 1	105	Train from anywhere in the unclass environment	Issue small electronic devices that only speak to the IO INTRANET training environment
BLACK 1	106	Cant Create operational Vignettes which are easily understood	Synthetic internet decoys, disinformation and misinformation based on country and mission
BLACK 1	107	The System tools to be intuitive, integrate and interoperable ie we are using 7 different vendors tools and none of them integrate with each other	Create one tool for capable of training, experimentation, test, and real world
BLACK 1	108	As the IE changes how we cant build on the fly and update the Common Operational Picture	We have to build a foundation and have the ability to inject automated MESL's and use AI/ML on the fly (multi-tenancy)
BLACK 1	109	Skill level 1-2-3-4 training. Individual and collective tasks	Use a tool to build an environment which can be "ramped up very quickly" from crawl, walk, run
BLACK 1	110	Apply and integrate new operational changes to address themes and messages	""
BLACK 1	111	We are not BUILDING and REUSING OFTEN	Build an environment which is intuitive and advanced enough to answer learning demands and training objectives
BLACK 1	112	Accessibility and fix the connection to the network	Improve infrastructure of digital twin the environment to replicate operational effects
BLACK 1	113	Always include Modeling and Simulation experts in to the planning process	Utilize SME's at all levels during the planning and Execution Phases
BLACK 1	114	Custom Content	Being able to replicate the environment and conduct "What if" MESL scenarios
BLACK 1	115	Expensive	Government Purpose Rights
PURPLE 2	116	All sites are only tied to exercise / event, how can we create and environment for the team room to practice these task?	On Cloud native tech on NIPR / SIPR that is compatable with all synthetic environment platforms. Operating system agnostic , accessable 24/7, civilian grp level program manager, centralized database , mission command element and assessments

PURPLE 2	117	Depth and Duration, we seem to recreate the wheel every single time.	Need Program manager and on cloud, guidelines / SOP's , technology road map and repository where all requirements reside
PURPLE 2	118	We are finger drilling a lot of these scenarios to push it forward, reality is scenario needs to fused and living with info that is real	Dirty Internet, not static, have dedicated people managing the scenarios, BLUE/RED Teaming
PURPLE 2	119	How do we mesh information side and physical effects side to the exercise design?	IW Range in New Mexico tied with Arizona State University, place where we can make a physical effect happen. Electrical testing environment 400 + KW facility to integrate into training , how do you emulate in physical world in cyber rhelm? White Cell integration , make maneuver commanders understand priority of IO
PURPLE 2	120	Fossils (Older generation / change resistant stuck in their ways) not willing to change and adapt	Create diverse teams with technological savvy personnel , teach strategic planning / tactical patience , we need to look forward 5-10 years out
PURPLE 2	121	Limited expertise in synthenetic internet usage	Implement training in SWC pipeline, add into baseline skills coming out of course, detachment warrant officers, detachment technical expert
PURPLE 2	122	Dont have a crossline tool-kit to streamline training across synthetic and real world environments	
PURPLE 2	123	Having streamlined platform to training with parnter nation forces	Make it robust and open enough within FVEYS , functionality , may need to build a second platform
PURPLE 2	124	Dont have implaced program to maintain currently relevant information across all operations to support SITE environment	
PURPLE 2	125	Dont have manpower to build this out	
PURPLE 2	126	We dont have AI to pull and scrape and place within our sandbox to keep constantly playing against at eschelon	
PURPLE 2	127	BLUF: Lack of resources and prioritization	Increased advocacy, get a single portfolio set up to advocate for \$\$\$
PURPLE 2	128	How can we incorporate other IRC's into SITE	Managers at each group level at 1st SFC , mobile train the trainers
PURPLE 2	129	Do not have solid training objectives / assigned METs	Proponent, adding into other maneuver level METS, incorporate through CAC
PURPLE 2	130	Who is the boss? What level of command can set these exerises up?	Group level exercise setting up, if on file it can built out further. TRADOC bosses of SITE
PURPLE 2	131	We do not have standardized SOP's for this.	
PURPLE 2	132	Continuity of SME's for synthetic environent	Program managers , PSYOP warrants
PURPLE 2	133	Incorperate training into real world competition because we don't have enough time in the day	
RED 1	134	No realistic way to train on PSYOP skills	
RED 1	135	Technology takes too long to get down to the DET levels. Not enough exposure to tech	better communication across units and echelon
RED 1	136	how do we codify tech or tools across all levels from individuals up echelon	
RED 1	137	other things (distractors) take away time from training	
RED 1	138	training for influence or tech is more difficult than training on kinetic activities	yes
RED 1	139	how to integrate training in IE with training from manuevor units	have
RED 1	140	many leaders don't value training in IE	
RED 1	141	many tech tools or apps don't communicate with each other	
RED 1	142	it's difficult to assess influence in training	system that's customizable to track MOP, MOE, and analysis shown on a COP or dashboard
RED 1	143	beuracracy affects training time	
RED 1	144	activities that brief well to top leaders don't translate well to tactical levels	
RED 1	145	even with the best tech, there will still be problems training	
RED 1	146	we need a way that SMS that don't have aptitude for certain tools or skills to learn/train on those skills or tools	
RED 1	147	we need to publicize the tech or tools that are available	
RED 1	148	ION doesn't offer the depth we need to train	
RED 1	149	need a service-wide or joint requirement for better synthetic environment	
RED 1	150	need to drive intel branch integration	
RED 1	151	high burden of expenditure to build scenarios	
RED 1	152	all countries and personas need to be based on real life or real people as much as possible	

Need to involve windows, android, and IOS into synthetic internet to closer match real life. Involve all IRCs into the synthetic environment. Need to be able to move seamlessly from different tech platforms. Integrate smart watches, phones, internet of things. Need a common platform across different units that all use the same tools, ie PULSE. Synthetic internet needs modular and adaptable. We have to have SMEs available on the system quickly in order to make updates and changes.

RED 1	153	IIRs or real world intel needs to be involved in exercise dev	
RED 1	154	decision makers typically aren't familiar with new tech or social media	
RED 1	155	tech that is used overseas needs to be trained in an environment in CONUS	
RED 1	156	needs commanders to prioritize requirements and training	
RED 1	157	modern army has lost the ability to make a training schedule	
RED 1	158	tools used at all echelons need to be the same as used on mission	
GREEN 2	159	Need more online behavior and who the person is to develop more TA data.	Pay for AdTech to be inserted as a requirement for contractor
GREEN 2	160	Geographic data is achieved but need personality and character data.	
GREEN 2	161	Did not own the website that posted to so did not receive user info for visitor data.	Admin right to see IP visitors and user profile and have more ownership. Trainee access to website interaction if you set up the web page.
GREEN 2	162	Gathering relevant meta data from dissemination on synthetic internet platform.	
GREEN 2	163	Contractor gave feedback about views and general data but needed info on the people that watched the content and use AdTech.	
GREEN 2	164	Inserted a page in the middle (redirect) to overcome and gather information after click on advertisement before arriving to landing page. Gathered IP address but they are not static. Ran IP thru a program and see time stamp to match and get Ad ID and see where they had been to get TA info.	
GREEN 2	165	Industry can tell exact targeting for marketing if viewed and not clicked or put in a cart and track the browsing history of a person.	
GREEN 2	166	Need to enrich TA to reach them again with follow on messages.	Can interact with them again with the same hashtag. AdTech has psychographic parameters especially if at a group level and not an individual level.
GREEN 2	167	Program of record for synthetic environment (like MPC-Lite) where can incorporate as a whole and receive updates and support.	
GREEN 2	168	SOF AT&L (?) constraints prevent establishing a good program of record	Working on solution at USASOC J39 with MARSOC and JSOC (Capabilities Development Document-CDD) sent to SOCOM. Nobody owns it currently. 39 is right organization but needs central personality.
GREEN 2	169	No set system of who owns IO - don't have central decision maker to work with industry for program of record	No requirement in Army only SOF for this kind of environment so there is no collectively identified need to develop a training environment. Synthetic internet is supposed to be owned by USDP (USDI owns OSINT). USDP made a draft directive but no further guidance like OSINT has. No prescriptive operational guidance. They should write policy. Designate an individual responsible for the program and left and right limits.
GREEN 2	170	Lots of different vendors look like internet but don't all work together	
GREEN 2	171	Poor communication government to industry	Need the money to talk to more industry. Funding to start and maintain.
GREEN 2	172	When did communicate there are many competing requirements from stakeholders	
GREEN 2	173	Demonstrations are extremely limited and limited authorization to upload programs in order to view it	
GREEN 2	174	No venue where government infrastructure limitations are overcome for industry to demonstrate	
GREEN 2	175	Joint IO range node but does not work with other components (Marines) so need to charge	
GREEN 2	176	Limited budget to pay for ranges	
GREEN 2	177	Connection to existing gov infrastructure and Joint IO range	
GREEN 2	178	Identify existing gov infrastructure to work and adapt to platforms	
GREEN 2	179	Time needed to create scenario with existing programs is too long - too many man hours especially for a company level exercise	
GREEN 2	180	Support to create specific scenarios	Within G37 need to be a scripting cell to develop and design the exercise. Help to create content and can contract out for support but it would take the pressure off the trainee. Army needs a unit or staff that does this. Some AI and bots can help make decisions and reactions in a scenario, if we pay for them.
GREEN 2	181	Intensive man hours to build a scenario detracts from training audience because they do both - potential exercise planner requirement	
GREEN 2	182	Are there real people behind characters in scenario or preset AI - advantage to represent population with reactions	
GREEN 2	183	What link to commercial gaming business to create content	Need the money to talk to more industry. Funding to start and maintain.
GREEN 2	184	Lack agent based modeling to have environmental reactions	
GREEN 2	185	Lack of connection to gaming industry who builds scenarios for a living and have huge investment - gov contractor has requirements but industry has all of the scale and experience	
GREEN 2	186	Phoenix Challenge series has different reps than the SITS	
GREEN 2	187	Need to have gov meet with gaming industry	
GREEN 2	188	Tools that do scraping and analysis need to be modular and apply in synthetic environment	
GREEN 2	189	Too many tools aren't applicable	

GREEN 2	190	Need a gov requirement to be interoperable with tools and actually be effective	The current training environment is compatible but a license fee needs to be paid. Funding needs to be allocated to allow licenses. Pay to have real and virtual API agree.
GREEN 2	191	Operational tool usable in training sandbox	
GREEN 2	192	Other units have civilian script writers who are expert - too many mil writers who have no background	
GREEN 2	193	Cost for script writers is too large	
GREEN 2	194	Traditional ranges are not designed for IO and the time to get on the schedule is years	
GREEN 2	195	No ability to quickly turn and used lessons learned on the training platform	
GREEN 2	196	Each is good at a particular aspect but can't do everything - need collaborate all elements into one range so all	Red and green RF COP. Live, virtual, and constructive range in simulation. A lot of current ranges have
GREEN 2	197		Hardware in the loop needs to be a requirement. (Example: Cell phones in the CTC on a closed loop).
GREEN 2	198	Full spectrum information advantage range	
GREEN 2	199	Cyber needs physical access to a network for some training so need a physical network established as well	
GREEN 2	200	Hard problem to have a persona that has geolocating and then able to have physical aspect	
GREEN 2	201	Physical, cognitive, and technical need to sync in training environment (not just in a lab)	Synthetic internet needs to be tied into the Commander's information COP. Needs to completely replicate the COP, not just IO, so that the Commander can coordinate. A training alternate reality COP. Include all classified info about enemy. Can be a cloud software to log in and be used by all trainees.
GREEN 2	202	EW and weather portion need to be a factor (not just IO and cyber)	
GREEN 2	203	Simulate EW and space for shaping the environment	
GREEN 2	204	Define the blocking and tackling to make it really good so that a campaign fight can be accomplished with competing objectives	
GREEN 2	205	Define core tasks versus supporting tasks and individual vs collective	
GREEN 2	206	Persistent training to follow up on training objectives so that a training center range is not the only test of skill	
GREEN 2	207	Cyber and IO do not overlap enough, especially in training	
GREEN 2	208	Increased risk if no training availability until in a CTC rotation	
GREEN 2	209	How do we integrate at a SCIF level?	Real world internet is unclassified. Have a server to hardline into and then wipe it when done. Closed loop can't see what doing because not using live internet just a scraped picture. Infrastructure does not support advanced systems (TACLAN can't keep up in scenario at tactical edge and have enough bandwidth) Makes OSINT only possible at higher echelon with large satellite support and then pushed to outstation units.
GREEN 2	210	No established TTP in how to train and how to keep them secure/classified	
GREEN 2	211	Manage risk of being observed during training	
GREEN 2	212	Spectrum management is a problem and FCC is outdated with allocation	
GREEN 2	213	OPSEC concern of adversary seeing training capability	G6 cyber security function. (Ex: ION on NIPR) Requirement for 3 factor identification from the contractor. VPN login and website login. Can move it to SIPR and recreate with less live updates.
GREEN 2	214	Program of record not responsive or adaptive enough to changing environment	
GREEN 2	215	Low understanding of how to segment population by data and how to translate to cyber data in foreign countries	
GREEN 2	216	No understanding of how to employ modern marketing tools	
GREEN 2	217	Most current tools are oriented to an American market and not international	Can't predict future websites but need to develop a way of writing new code and pages (Wordpress, HTML, etc) and find web developers to keep up with changing environments or adapt to international standards.
GREEN 2	218	Need ability to replicate foreign internet (social media, websites, infrastructure)	
GREEN 2	219	No mechanism to see how infrastructure of TA is set up	
GREEN 2	220	If TA needs to use VPN to get to another website because of compartmentalization abroad and segmented population that have different suppliers and supporters within the same country	
GREEN 2	221	Separate capability with DHS,DOD,DOS,etc	
GREEN 2	222	Limited sites to herd to in the synthetic environment	
GREEN 2	223	Limited layers to communication to utilize a full spectrum (online news, social media page, phone apps)	
GREEN 2	224	Avoid fastforward time in training because loses complexity	
GREEN 2	225	At the tactical level have issues with manpower to manage script, training, etc	
GREEN 2	226	Knowledge on team is limited to a certain person who has limited billet time	SWCS is not where the knowledge resides. Integrated into the pipeline how to use training environment and some use of tools. SOCOM solution to have a standard training base.
GREEN 2	227	Can't manage a training network certification along with digital training for scraping, etc	
GREEN 2	228	Certificates expire and people rotate	
GREEN 2	229	Talent management doesn't fit for Soldiers who are capable to conduct training	

GREEN 2	230	How do we manage career development while not moving too often	
GREEN 2	231	More flexible career tracks	Data analysis tracks to interpret the data that has been pulled. Similar to industry standard but needs to pay for training like EAG. Pull website onto the system (like LiveU map pulled in using Wordpress)
GREEN 2	232	Civilian run training area - also need to force multiply (Warrants in PSYOP fill gap?)	Hire dedicated personnel to run the range and function as FSR. Same thing as Range Operations and oversee web and training requirements.
GREEN 2	233	No designated unit for establishing training in a complicated environment	
RED 2	234	Data input for current system is too demanding	Mirror the current internet and put it in a safe space/synthetic environment. With the ability to add exercise input. The mirrored internet needs to be AO related. Needs to be able to also incorporate information from radio, TV and other means of dissemination.
RED 2	235	Overreliance on US style internet	system would have the ability for the operator to select a specific geographic zone
RED 2	236	WARSIM currently does not have an effect from an IO perspective. There are no IO "actions" and "reactions".	
RED 2	237	Majority of exercises have a focus on maneuver effects	
RED 2	238	Most synthetic environments do not adequately incorporate IRCs working together on the same platform. Need to have a more balanced environment for PO, Cyber and PA.	Early integration with other IRCs to understand capabilities
RED 2	239	Non-digital effects, reactions are not incorporated in the environment i.e radio broadcasts	Script writing and injects from a "white cell". Create digital version of radio.
RED 2	240	Training objectives for all IRCs need to be incorporated into one platform to increase interoperability	
RED 2	241	Current synthetic environments do not have adequate evaluation systems, they do not store historic information or aggregate data.	Information from previous exercises would transfer to future exercises. Operational data gets transferred into the training synthetic training
RED 2	242	Systems do not aggregate data or have visual space for commanders to see and make a decision.	interactive common operating picture to show commanders information domain.
RED 2	243	Currently cannot conduct a "Full Mission Profile" to see where the gaps are in our training	Need to have synthetic internet training environment available to PSYOP Dets in team room. Needs to be available on both NIPR and SIPR.
RED 2	244	Current systems do not have language capabilities and do not address potential cultural and technical barriers	
RED 2	245	Most synthetic environments do not have up-to-date data incorporated. Most operate off of old information	
RED 2	246	Need higher mobility for the system. Needs to be able to be used on mobile devices	
RED 2	247	Need a high security wifi and hardline capability	
RED 2	248	robust suite of social media sites as well as imbedded scraping tools	
RED 2	249	currently not incorporating adtech into the system	
RED 2	250	Solutions need to be implemented on a more proactive basis	
RED 2	251	Interoperability with partner force and austere environment operations	
RED 2	252	does not have real world incorporation	
RED 2	253	Persistent access to operators of the training system to work on their skill sets	Need to have a system available to each BN/COCOM that gets continually updated so teams can get practice.
RED 2	254	do not have ability to run exercises on system	
RED 2	255	machine that could provide feedback based on marketing parameters	System would provide MOE
RED 2	256	work stations for every soldier	
RED 2	257	network access	
RED 2	258	Needs to provide outputs for commanders to make decision. Commanders need to be part of the training.	
RED 2	259	Needs to provide parody to deployed environment. Simulation and emulation	
RED 2	260	feedback in the system needs to be realistic to the operational environment and the target audience	System would have indigenous people that could provide feedback for developed products. System would provide feedback for action/inaction.
RED 2	261		system would provide psychographic information about how the target audience is interacting with the contact
SPARKLE 1	262	The same person ends up doing it all (plan, setup, do) due to depth of SMEs	Recruit more people, Create an ASI, Automate the process, Data solution configuration that you can chose, Standardization of data for integration of other vendors
SPARKLE 1	263	The scenario is not deep enough to get the relevance to the mission	Need a larger data solution that is plug and play, prioritize the people to work on the development, Need a joint staff requirement to include a SITE into future training ranges and pre deployment training, IO needs to be integrated into the COP so that CDR can see the impacts
SPARKLE 1	264	MESLs for Main training audience and IA are not Integrated in exercise planning/design	
SPARKLE 1	265	Not training the way we fight where IA has positive and negative influences	Grade CDR on impacts of IA during the exercise. Layering of effects to accomplish the goal, more realworld data that is more realistic than bots generating the data
SPARKLE 1	266	No Database of previous used exercises to start from to minize manpower/time	establish an enterprise database that can be easily pulled from to create the scenario Ala carte style menu of options
SPARKLE 1	267	do not have an agile acquisition mechanism to respond to the changing requirements	Need our own funding source for the capability so that we are not competing against other priorities and an agile way to access it get a caucus of politicians to get buy in on what is needed to compete in GPC. utilize government / academic relationships to accelerate acquisition

SPARKLE 1	268	Current systems are unilateral in nature for ARSOF raining does not crossover to Joint /international use	having the virtual environment right next to the real environment to get more realism
SPARKLE 1	269	Red / Green /Amber training limits the ability to train while contributing to the continuous training model	
SPARKLE 1	270	No IRC specific training objectives	Intigrate earlier into exercise development
SPARKLE 1	271	Scenario usually puts elements in stovepipes and does not encourage the collaboration on the SITE	forcing function in SITE/scenario for friendly and enemy decision makers
SPARKLE 1	272	Need more focus in the MOS it is too generalized for SM to specialize in niche skillsets	ASI / 18 series Model
SPARKLE 1	273	Earlier intigration into planning	Intigrate earlier and force an emphasis on outcomes to success of exercise
SPARKLE 1	274	no collabarative space to intigrate the other IRCs (EW,Space,Cyber etc..)	
SPARKLE 1	275	Bandwidth management does not put IA as a priority	
SPARKLE 1	276	Inability to use in low bandwidth environments and on cellular devices (infrastructure/systems)	
SPARKLE 1	277	Lack of intigration with inter agency during training prohibits showcasing capabilities	
SPARKLE 2	278	lacks availability of scalable virtual environment for info advantage	- defining scalability (e.g., geographical echelon, levels of war)
SPARKLE 2	279	single-server limitations	has to be cloud-based and centralized support
SPARKLE 2	280	scalability readily available; more freedom to configure on-the-fly	
SPARKLE 2	281	lack of knowledge and manpower to support on the backend	more training or outsourced company for support
SPARKLE 2	282	capacity and capability to create and maintain a synthetic env	hire GS niche area
SPARKLE 2	283	an actual person to train in longevity and sustain over an extended period of time	create a career field dedicated to exercise and simulation; create a NEW MOS or sub-MOS to support this focus area
SPARKLE 2	284	needing a person with the aptitude; career development in military does not support ability to maintain continuity and longevity for tech support	investigate what the Army is doing with Data Sci and see whether we can replicate in PsyOps
SPARKLE 2	285	tailored synthetic environment	See above
SPARKLE 2	286	lack rapid scraping for true and realistic environment	spec requirement(s) for the developer needs to be well-defined and identified; data-agnostic and non-legacy; continuous ingestion with a robust ML capability
SPARKLE 2	287	lacking impacts simulating real-world outcomes	
SPARKLE 2	288	there are no Standard Operating Procedures or training guidance	define information warfighting as a function and in creating a new MOS or sub-MOS for this focus
SPARKLE 2	289	lacking leader education; needing to normalize this skillset	get the right leaders in position to understand the need and the platform; develop and execute a training education per leader level; acquire SMEs and build a curriculum
SPARKLE 2	290	solutions available are showing limitations and providing obselete ideas	See above -- needing way for continuous ingestion w/robust capability
SPARKLE 2	291	the POR/acquisition life cycle process is broken	See above -- change SOCREB (special operations command requirements evaluation board); waterfall vs agile process
SPARKLE 2	292	understanding how to create personas at a rapid pace	See above -- needing way for continuous ingestion w/robust capability
SPARKLE 2	293	lack of seperating operations from training and research for policy	See above -- more information to the Commander to make better decision; simulations to give value to scenarios
SPARKLE 2	294	training has to allow for disposable content/data/personas	See above -- needing way for continuous ingestion w/robust capability; have systems reflect multi-domain to build out training
SPARKLE 2	295	bias towards risk aversion in policy for training and research	See above -- acquire SMEs to refine and
SPARKLE 2	296	the idea of defining proficiency and metriculation	
SPARKLE 2	297	lack of capability development	See above -- leadership and SME roundtable
SPARKLE 2	298	talent management needs	
SPARKLE 2	299	lack of digital to physical and physical to digital capability	See above -- cloud based solution, not server based
SPARKLE 2	300	lack of integration	
SPARKLE 2	301	static and not dynamic feedback	See above -- needing way for continuous ingestion w/robust capability
SPARKLE 2	302	not a lot of experience with the synth environment	time will allow for
SPARKLE 2	303	during training, SIE or deployment, there needs to be available standardized toolset	
SPARKLE 2	304	synthetic env lacks specific tools and standard skills required to operate in real world	See above -- needing way for continuous ingestion w/robust capability
SPARKLE 2	305	technology (tools, knowledge application, and licensure) in real world should be transferrable to the synthetic environment	
SPARKLE 2	306	PULSE is included in-site but does not include all functionality and true robustness the actual internet possesses	
SPARKLE 2	307	Realistically replicated tasks (i.e., MOS) are not easily accessible in the training environment	
SPARKLE 2	308	capturing the full range of data supporting a real environment to quickly assemble scenarios, personas, and narratives during training	See above -- needing way for continuous ingestion w/robust capability
SPARKLE 2	309	How realistic is the training env if the scraping captures only a limited timeframe?	See above -- needing way for continuous ingestion w/robust capability
SPARKLE 2	310	clearly defined needs for training environment	
SPARKLE 2	311	flexible platforms for machine learning, artificial intelligence, and augmented reality to occur synchronously	
SPARKLE 2	312	HI (human interaction) vs AI (artificial intelligence) limitations with fine-tuned tailoring of synthetic environment (the chicken and the egg problem)	

YELLOW 1	313	no initial set of definitions for what "Synthetic Internet" is.	Can use the OSI 7 layer model. however, how realistic does it need to be? does it need to look the same, or does it need to go down as for IP addresses.
YELLOW 1	314	no acronyms.. spell everything out. not everyone is from the same organization. acronyms without definitions are bad	just dont use them. say the full phrase, then list acronym. Additionally, provide an acronym list. furthermore, standardize speach. terms need to be standardized. Example:IA. is it information assurance, information advantage, or interagency?
YELLOW 1	315	any system we have should be used for unit level, exercise and collective training. training and info has to be transferable. we train on platform A... but NTC uses platform B. need to be able to take info from other trainings with us. "requirment for import/export standard" to support interpoerability.	two solutions. 1. develop translator between systems (data translation). 2. develop a common standardized language between operating playforms so that different playforms are interoperable.
YELLOW 1	316	there is no identified repository of digital identities / players in an exercise, that can be poached from different systems from a training perspective (knowledge management). and then program of record to manage it. addiionally, this is difficult to replicate in a training environment without any overlap in the "real world"	build a program of record to assign someone to manage systems, rather than having as an additional duty.
YELLOW 1	317	identifiy what capabilitites actually exist, and what our training requirments are	define training objectives clearly, then select platforms that aid in achiving our objectives.
YELLOW 1	318	often times training objefctives do not overlap... IN PLT does their thing, CA goes and does unilateral training	integrate multiple training OBJs, so CA, PSYOP, IN, AR work together. ensure CDRs understand the capabilities of their enablers so that interoperability can be achieved.
WHITE 1	319	Need white and NIPR line access. Limits the number of sites you can use. Operating on white line limits access to DOD/ GOV pages without needed a CAC to access vs username and password. (Possible restriction waivers)	Cloud based VPN to access on any type of system.
WHITE 1	320	Not able to pull the same volume of data as you would FWD. The synthetic environment doesn't accurately duplicate a deployed scenario.	Synthetic internet duplicates data based on real time, and updates as the real internet does. When we respond to things in the synthetic internet there is a firewall that keeps it from going into the real world. Bots monitor the the information coming from the real world and can block or allow in the data into the synthetic environment.
WHITE 1	321	No realistic costs to the maneuver Commander. (OPSEC violations) The internet SIM doesn't feed the war SIM. None of the systems talk to one another, within the scenario and unable to incorporate capabilities like PULSE.	Use Bot development to better incoorporate OPSEC violations and their effects in the IE and develop the scenario for Commander's to have to respond and make decisions. Added technology platforms at the lowest level, like cell phones, should be tied into the response to changes in the IE.
WHITE 1	322	Lead time to build out the scenario is extremely time consuming, and the need to have a robust white cell in order to enhance the IE.	Integrate more AI to replace Soldiers in the white cell. The whole unit needs to be on the same system, on the same contract, which allows for the internet to keep running and keep updating to facilitate any POB, any COCOM, during any exercise.
WHITE 1	323	Limitations on storage on servers, and prioritizing their use. Unable to catalog older information.	Cloud based storage.
WHITE 1	324	Potential to leak synthetic environment into the real world. How do we get past the risk vs reward of replicating real world internet, so that we can use as much real world data in the scenario as possible.	Robust firewalls.
WHITE 1	325	Not doing a good job of showing Commanders the impact of the IE during the scenario. The synthtic internet needs to be as robust as possible in order to best show Commanders effects in the IE.	Need a COP on a common platform. C2IE should be opened in the synthetic internet.
WHITE 1	326	How do we train on using the synthetic internet at home station. Units are not using the same systems for closed internet either, does that make a difference for the user to operate the system.	Long term contract needed across SOF to use the same system so units on Bragg and adjacent units can train together- and the system can keep running and updating.
WHITE 1	327	Requirements need to better be specified for the contract by the user. From intel perspective, the training is not comparable to real world because of the limitations on URL access.	Contract modification based on end user.
WHITE 1	328	ION takes too long to create sentiment in the IE, especially without a robust white cell. The user has to make alot of clicks to show a response and create sentiment.	Better us of AI to build scenario.
WHITE 1	329	Need more bandwidth.	Cloud based storage.
WHITE 1	330	Not using synthetic internet to conduct training with all partners, in large scale scenarios. In these scenarios, our partners are using different systems.	Authentication in cloud based synthetic internet to share across nations.
BLUE 1	331	person hours needed to dedicate towards synthetic internet set up	Increasing the ability to use AI and human interaction to decrease this, we need an iphone app level of use for UI in order to decrease the amount of time spent building repisotry of scrapped data to help assist building "white noise"
BLUE 1	332	Compatabitile: Not compatible with any tools that we have currently, COP,s craping etc. Hardware is huge issue DODIN can't access most sites	
BLUE 1	333	cotrol Cannot change the parameters of the things that are on the synthetic internet	
BLUE 1	334	Share ability between multiple platforms and tools but are hindered by different companies and different contracts	
BLUE 1	335	Synthetic internet is based on processes not MOEs building play book to inform the commander	
BLUE 1	336	Need for P V P modeling issue still takes a lot of man hours for scripting of the scenario	a 24/7 range that doesn't close and can be utilized by every IRC never closes etc. Unreal engine to build a comprehensive platform based in free-flow idelogy versus perscriptive army training
BLUE 1	337	Knowledge management piece to recycle ranges for future exercises	
BLUE 1	338	Video game piece, unreal engine etc.	
BLUE 1	339	Need AI Must be easy for the average user to use, not based on a data scientist building out AI	

BLUE 1	340	Compatibility between all of the different stake holders/ systems companies sharing data and standardizing the way thing are built.	
BLUE 1	341	No current low-bandwidth to no-bandwidth	
BLUE 1	342	Contracting is the biggest issue, for community buy-in	
BLUE 1	343	The way we look at training is archaic/ need realism	
BLUE 1	344	train in a low threat environment on the tools	
BLUE 1	345	Incentive at the higher echelon, to be involved with this	
YELLOW 2	346	Synthetic Internet doesn't integrate with PULSE	It can integrate
YELLOW 2	347	all the programs not together in a synthetic environment	Bring all the programs together in a synthetic environment
YELLOW 2	348	group think	diversify working groups
YELLOW 2	349	systems that are currently out there don't cross train (cyber/IO/EW)	merge capabilities into one synthetic environment
YELLOW 2	350	manpower intensive systems (scenarios)	dedicated support package from service provider for training, planning and exercises
YELLOW 2	351	current systems are difficult without special skills	dedicated support package from service provider for training, planning and exercises
YELLOW 2	352	everything is in real time (unrealistic effects)	exercise planning and synchronization of events
YELLOW 2	353	no platform that simulates effectiveness of IO	dynamic scripting with robust white cell support
YELLOW 2	354	BOTS are AOR specific	create BOTS so that some are AOR specific and some that are not AOR specific
YELLOW 2	355	language limitations/realistic training requirements in languages other than English	scenario development
YELLOW 2	356	is the AI adaptive?	is this possible?
YELLOW 2	357	lengthy acquisition process (OBE)	Senior leader conversation
YELLOW 2	358	AI interaction dissemination	
YELLOW 2	359	CTC infrastructure to support Information Environment	use facilities that can best support Information Environment/prioritize improvements at CTCs to incorporate
YELLOW 2	360	gap in physical to virtual (actions need to translate into virtual environment)	exercise control group manages
YELLOW 2	361	real time mitigation of physical actions	exercise control group manages
YELLOW 2	362	CTCs are not the appropriate locations to use/test capabilities	use facilities that can best support Information Environment/prioritize improvements at CTCs to incorporate
YELLOW 2	363	PSYOP/SOF Doctrine doesn't address how to use internet for influence	update doctrine
YELLOW 2	364	which command has primacy?	Senior leader conversation
YELLOW 2	365	training needed to manage systems	dedicated support package from service provider for training, planning and exercises
YELLOW 2	366	there is not enough money	be unconventional
YELLOW 2	367	Cold start/cold finish (scenarios don't build)	scenarios that build and evolve
YELLOW 2	368	how do we train jointly at CTCs/Interoperability (SOF/Conventional) (Active/Reserve)	unit level communication prior to exercise involvement
YELLOW 2	369	scalable capability (individual/team/company/BN)	scenario development
YELLOW 2	370	talent management	Senior leader conversation
YELLOW 2	371	lack of visualization to influence leader decisions	individual level task
YELLOW 2	372	translation into maneuver language	individual level task
YELLOW 2	373	how do you pre-test before integrating into SI?	pre-testing

24/7 range that people can implement throughout,

dod provides baseline application where all other companies can place tools to use for one sand box playground.

YELLOW 2	374	current training methodology doesn't support IA functions/actions	exercise planning and synchronization of events
YELLOW 2	375	phase 0 operations	PSYOP should be doing this prior to deployment to CTC
YELLOW 2	376	competition exercise into conflict exercise	build competition phase into scenario, allow PSYOP to operate in SI prior to CTC arrival
YELLOW 2	377	wargaming capability	not currently designed to use as a wargaming tool, but can be utilized potentially.
YELLOW 2	378	IE scraping backwards (builds deeper scenario)	would potentially "muddy the waters" for an inconclusive picture of current IE
YELLOW 2	379	tailorable/adaptable AI to individual/team level of proficiency	baseline and feedback, white cell support
YELLOW 2	380	what level of classification can we operate in SI environment?	NIPR/SIPR compatible
YELLOW 2	381	anchoring to physical locations	use facilities that can best support Information Environment/prioritize improvements at CTCs to incorporate
WHITE 2	382	SWCS: Being directed to integrate SITE capability into POI at school house, but capabilities are not inherent to system and O&M being utilized. Consequently, SWCS is being reassured that reimbursement will take place via POM, but requirements are constatly changing.	SWCS will not get reimbursed via POM. Use Strategic capabilites Office or other pots of money to pay for SWCS. POM = bad,... or RCCTO
WHITE 2	383	Lack of clear and concise guidance from Army for what to develop. Additionally, Each DoD component is doing its own thing.	Top down infrstructure that enables innovation and accepts requirments from bottom to up. need to leverage expertise from the lower echelons, move to higher, IOT engage SMEs.
WHITE 2	384	How to integrate other entity capabilities into the whole. Each entity has a capability that is not incorporated as a whole.	GOVT needs to create open architecture framework that Army can utilize that will incorpoarte the individual into a whole.
WHITE 2	385	Limitation: the ability of synthetic on a GOV system. Does the syntetic internet need to be on NIPR or is it better to leave on a white line.	MIL uses SDN or similar and must rely on a MIL system BUT SOF uses a PF and use HN commercial.
WHITE 2	386	Lack of emphasis across the whole RF/cyber spectrum.	SITE needs to be standardized across whole DoD. Top down infrstructure that units can use.
WHITE 2	387	No design for a long term persistent strategic campaign	
WHITE 2	388	problem from resource perseptive. Not built for long term longevity.	
WHITE 2	389	INTEL needs to be at the table while developing capabilities.	invite INTEL. Engage with MI COE and CAC to produce needed capability.
WHITE 2	390	Not Inegrated at begining of SWCS training,... for example not integrated in Robin Sage	Integrate
WHITE 2	391	Lack of understanding of emerging IE platforms from younger generations. We are developing and forecasting for something that will be outdated. Can't be just social media.	Top down infrstructure that enables innovation and accepts requirments from bottom to up. need to leverage expertise from the lower echelons, move to higher, IOT engage SMEs.
WHITE 2	392	Capability needs to be so robust so to be able to fight like our enemies.	Top down infrstructure that enables innovation and accepts requirments from bottom to up. need to leverage expertise from the lower echelons, move to higher, IOT engage SMEs.
WHITE 2	393	Need to train and demonstrate a trusted capability IOT drive GCC/TSOC knowledge and establish requirments.	Pioneer champions to advocate up and out.
BLUE 2	394	Synthetic internet and information operations is an afterthought for commanders, specifically in COCOM-led or COCOM-focused exercises.	Make it hurt, hold commanders accountable for their ability to conduct and manage the information environment (IE as a priority). - OPFOR can degrade and disrupt CTCs in the IE. - Synthetic internet needs to be the same everywhere, interoperable, and adjustable. Digital, physical, digital integration
BLUE 2	395	Inability to reliably test or pretest within the synthetic internet for reaching specific target audiences.	Build depth, breadth, complexity in Synthetic internet environment. - build network complexity into the Synthetic internet environment.
BLUE 2	396	Ubiquity of access to the synthetic internet through the entire CV2 pathway.	Cloud-based common system that can be linked into from anywhere (just need internet); can train with it prior to exercises and during the entire training pathway. Also needs to be able to close off for specific exercises but building the platform with real-world internet data.
BLUE 2	397	Current synthetic internet options do not correctly mirror the complex nature of the open internet.	See above
BLUE 2	398	Continuity when developing scenarios.	steady-state updates; campaigning
BLUE 2	399	Number of access points; working together with other entities/organizations; lack of COP for the information environment.	Build physical anchorpoint, likely out of a CTC or schoolhouses, for incorporation of all IRCs.
BLUE 2	400	Coordination between the IRCs and Joint and IA (Cyber, PSYOP, PAO)	Joint control-board for cross-talk capabilities. Multi-domain operations tie-in across JIIM for exercises.
BLUE 2	401	Lack of integration with other SOF, lack of integration with other IRCs.	
BLUE 2	402	Lack of/breakdown in communication between exercise planners (military) and contractors throughout planning.	Build parameters of the training environment, ensure training objectives are clear and the contractors are involved in the exercise planning process. Build relationships with contractors and continuity.
BLUE 2	403	AI that doesn't portray a realistic environment.	
BLUE 2	404	Compatibility, incorporation of real-world-mimicking social-media and other platforms	
BLUE 2	405	Issue with technical support and contracts; contractors availability during the exercise to fix issues that arise	
BLUE 2	406	Lack of AI adjudication (exercise planners/white cell determine whether or not actions were successful)	
BLUE 2	407	Lack of realism due to notionally generated content/information/details from the physical world	
BLUE 2	408	Something we can take with us anywhere; all you need is an internet connection (like SDN)	
BLUE 2	409	Lack of interoperability across training and tools between military branches, IRCs, etc.	

BLUE 2	410	Training environment does not accurately mimic the real world.	
BLUE 2	411	The synthetic environment does not account for evolution of capabilities, tools, platform, etc.	
BLUE 2	412	Lack of capable internet at CTCs	
BLUE 2	413	Lack of prioritization of resourcing for information operations infrastructure	
BLUE 2	414	Acquisition process too long, needs to be shorter	
BLUE 2	415	Lack of investment in augmented reality and artificial reality	
BLUE 2	416	Lack of ability to hold key leaders accountable to respond to indicators with appropriate IRCs	
BLUE 2	417	Maneuver commanders are not graded on the information environment (lack of training objectives associated with it), therefore it's not a priority.	
BLUE 2	418	Prioritization is tied to resourcing, and if the information environment is not a priority, it won't get the resources.	